



«*Ser hechura de*»: engineering, loyalty and power networks in the Sixteenth and Seventeenth Centuries

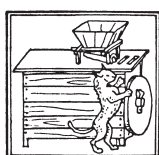
Alicia Cámara Muñoz and Margarita Ana Vázquez Manassero (eds.)



FUNDACIÓN JUANELO TURRIANO

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POWER NETWORKS IN THE SIXTEENTH
AND SEVENTEENTH CENTURIES**

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*El dibujante ingeniero al servicio de la monarquía hispánica. Siglos XVI-XVIII:
ciudad e ingeniería en el Mediterráneo*

[Draughtsman engineers serving the Spanish monarchy in the sixteenth to eighteenth centuries:
city and engineering in the Mediterranean] DIMHCIM (AEI/FEDER/UE).

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Head Researcher: Alicia Cámara Muñoz

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JUAN PANTOJA DE LA CRUZ. *König Philipp III (1578-1621)
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FOREWORD

In the sixteenth and seventeenth centuries the engineering profession had an element of direct relation with power, a subject begging to be studied, as it constitutes a novel approach to a complex topic, that of the mobility of the engineers in the power networks of the Early Modern era and the necessity of ensuring their loyalty. This book is based on the expression so often used in the era of «*ser hechura de*» [being the creation of / the making of]. This often explains the professional careers of engineers associated with a governor or military leader, many of whom, in turn, had knowledge of martial engineering and the control of cities and frontiers. In this book outstanding specialists present different European case studies, making it possible to approach a comparative history in order to understand this profession before the rule of the academies standardised promotion and specialization.

This book is part of the results of the R&D+I project *El dibujante ingeniero al servicio de la monarquía hispánica. Siglos XVI-XVIII: ciudad e ingeniería en el Mediterráneo - DIMHCIM (AEI/FEDER/UE)* [Draughtsman engineers serving the Spanish monarchy in the sixteenth to eighteenth centuries: city and engineering in the Mediterranean - DIMHCIM (AEI/FEDER/UE)], - HAR2016-78098-P funded by the Spanish Ministry of Science, Innovation and Universities. This is the English version of the book previously published in the original languages.

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Introduction

Playing the knowledge, loyalty and power games

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Hechura: para dar a entender que un señor ha valido a cualquier persona, y le ha puesto en estado y honor, decimos ser este tal hechura suya.

(Sebastián de Covarrubias, *Tesoro de la lengua castellana o española*, 1611)

The title of this book in Spanish begins with the words *Ser hechura de* [to be the making of]. In seventeenth century usage that expression was defined in the contemporary dictionary cited above to mean: «when a lord takes someone under his protection, affording him status and honour, we say that the protégé is of the lord's making». Spanish, Italian and French specialists reflect in these pages on how the vertical power relations inherent in that conceit largely explain the work performed by engineers, who were invariably beholden to the political power that established borders, built cities and developed lands. Their discussion of the relationships between the nobility and engineers sheds light on the practice of the profession and the mechanisms that governed the flow of scientific knowledge across European courts. As noblemen and engineers often shared knowledge, the analysis of their bonds enhances the understanding of such joint scholarship, its tangible consequences and the process that defined engineering as a profession in the sixteenth and seventeenth centuries. Introducing those power relations in research on the subject is an original approach that helps explain the extent to which individualities and loyalty-based relationships contributed to determining the globalisation of engineering science in the early modern age.

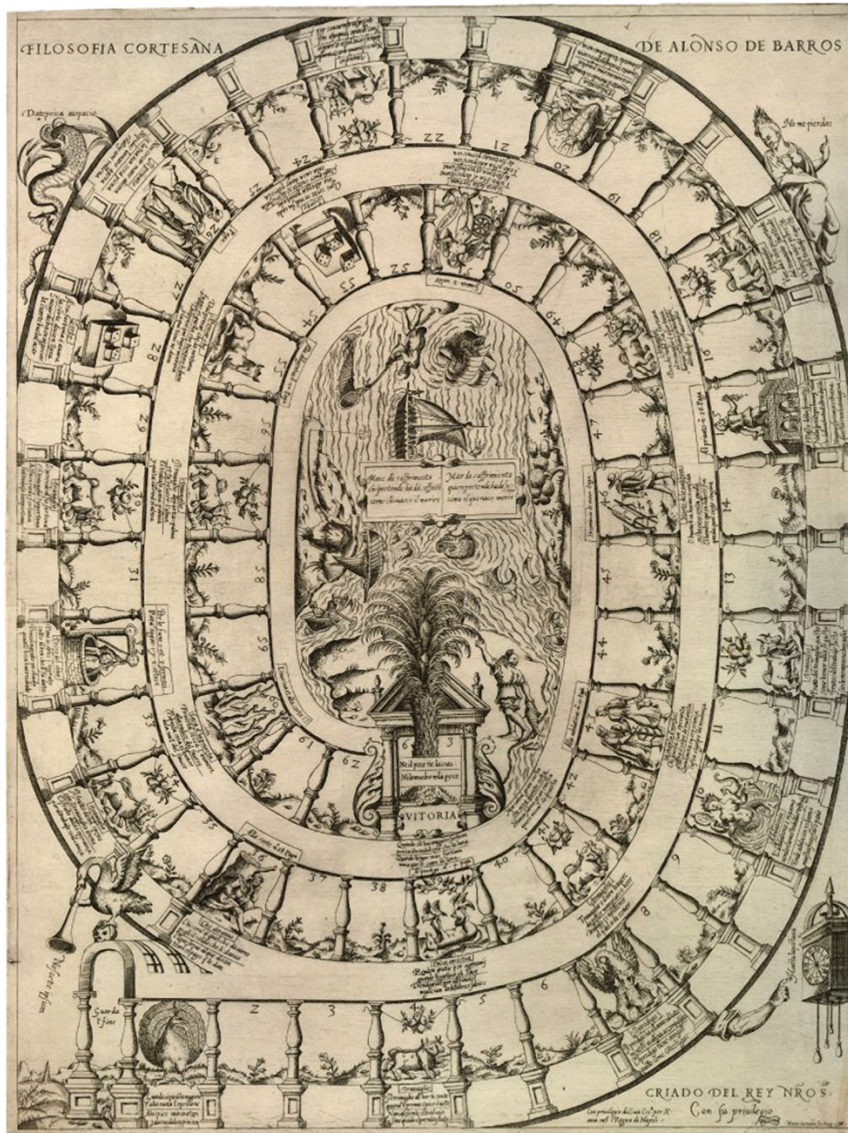


FIG. 1 ALONSO DE BARROS, *Filosofía cortesana moralizada*, 1588, engraving. London, British Museum. Gameboard with squares numbered from 1 to 63.

PLAYING THE COURTIER GAME

In his *Filosofía cortesana moralizada* (1588), Alonso de Barros proposed a board game similar to the game of the goose inspired by courtier careers, in which landing on square 46, called «death of the protector» meant having to start all over¹ [FIG. 1]. Couched in recreational terms, Barros's text eloquently mirrored court practice, in which aptitudes and knowledge alone did not suffice to climb the social ladder. Winning the support of a protector was an imperative at least as important incumbent upon anyone seeking a position in court, and engineers were no exception. Fully aware of the mechanisms that governed the courtier scenario, engineers, writers, painters, cosmographers and similar sought a protector, someone for whom to be the «making of». They knew that to move inward to the centre of power and the final square on the board where a palm tree represented success, they would have to contend serenely with the designs of changing fortune, «neither gloating in prosperity nor cowering in adversity»².

Baldassare Castiglione's *Il Cortigiano* (1528), first translated into Spanish by Juan Boscán in 1534, also depicted life at court as a game. The book was widely circulated in its day³ and, not coincidentally, was read by the aforementioned Alonso de Barros⁴. In the first few paragraphs, Castiglione addressed the close relationship between nobility of lineage and courtiers' understanding of warfare⁵. In subsequent pages, he advised courtiers to acquire «drawing or delineation [skills] and an understanding of the art of painting». He based his arguments on the practice prevailing in antiquity, sustaining that such knowledge was advantageous «primarily in war, where there is a need to map regions, settlements, rivers, bridges, cliffs, fortresses and similar things which, even if they could be retained in memory (which is nearly impossible), could not be conveyed in any other way. To fail to appreciate that art is to be mindless, I believe»⁶.

PLAYING THE POWER GAME

The premises set out in that sixteenth-century «best-seller» were no more than a reflection of contemporary courtier ideals. The decisive battle of Pavia (1525), which had taken place just a few years before *Il Cortigiano* was published, was followed by a succession of military campaigns in the Mediterranean and Europe that ushered in substantial technical changes in military art and fortification science⁷. In that context, princes' and courtiers' knowledge of such disciplines was essential not only to win battles, but also to take impregnable targets or «rout powerful armies with very few men»⁸. The War of Siena was a turning point in that atmosphere of experimentation in military art and science, given the participation of renowned men of arms and engineers, some of whom would later spur new experiences in fortification engineering in Europe or write treatises that served as references throughout the sixteenth century. These professionals included Gio Battista Pelori, Pietro Cataneo, Giovan Battista de Zanchi, Gian Maria Olgiati, Giovan Battista Calvi and possibly Giovanni Battista Antonelli. Given the involvement of military elites of the prestige of Marco Antonio Colonna or García de Toledo, the War of Siena can be studied to gain insight not only into engineering, but also into the power relations and loyalties established between engineers and noblemen of arms⁹.

Throughout the sixteenth and seventeenth centuries, political theory consistently stressed the importance of military science and art in princes' and courtiers' educational curriculum as a political tool that enabled governments to conserve and defend their States. At the same time, power was in constant need of the services of engineers, professionals who necessarily had to combine science with the experience of war¹⁰.

In *Diez libros de la razón de Estado* (1593), the Spanish translation of a treatise originally written in Italian by Giovanni Botero, the author theorised on the sciences that a monarch needed for good governance, emphasising that «because war is also the King's affair, he should master all things military, be able to distinguish a good captain and a good soldier, know how to choose and lead a squadron and have a command of sciences such as geometry and architecture that are nearly the servants of military art; and of all that relates to the mechanical arts»¹¹. Nonetheless, Botero qualified the depth of knowl-

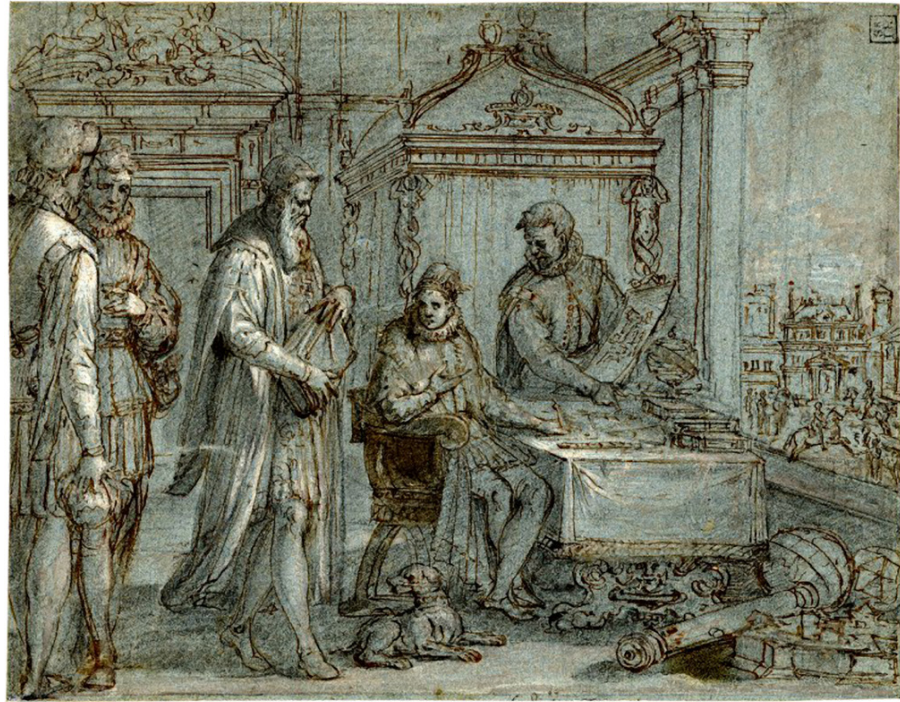
edge of such disciplines that should be required of a monarch: an understanding of the fundamentals to distinguish truth from falsehood, to choose the best option always guided by prudence and eloquence. The prince would never be expected to know as much about these subjects as engineers, however, as that was why he had such professionals at his service to design and build fortresses, erect bridges and make war machines¹². Similar considerations appeared in Diego Saavedra Fajardo's *Idea de un príncipe político christiano* (1640, second ed., 1642). In the fourth emblem presided by the motto «Non solum armis» (not only with arms), the Spanish diplomat claimed that «science is requisite to rule» and added that the prince's knowledge should stand midway between two extremes: ignorance, which led to terrible errors, and excessive devotion to study, which would distract him from the task of governing¹³. «Sciences», then, were tools essential for the political and military governance of States and princes should have:

«a general knowledge of science and art and an awareness of their practical effects, and primarily those conducive to governing in peace and in war, taking from them enough to understand and form an opinion and leaving to his underlings the glory of knowing more than he»¹⁴.

These ideas were both prevalent in contemporary theory and widely popular. In the sixteenth and seventeenth centuries sciences that in Botero's words were «nearly servants of military art» were taught to many a king and prince who enlisted the close cooperation of engineers to govern politically and militarily. That the foundations of an empire rested on knowledge and science was something of which Philip II was acutely aware. Not in vain one of the traits of his personality as king that was most deeply rooted in his contemporaries' collective vision was that he was a monarch «highly inclined to science [...] whose command of geometry and architecture stemmed from his own studies, long practice in building, his natural talent or all three, who mastered that art as ably and wisely as its most skilled practitioners»¹⁵. That was how Baltasar Porreño, theologian, described the Prudent King. Irrespective of Porreño's fawning, self-seeking tone, the fact is that his portrayal of Philip II as a «scholarly king» with a command of science was widely shared¹⁶.

After the king's death, the ceremonies held in Florence were designed to an iconographic programme consisting in 24 monochrome canvases representing events in his life, together with another four, one for each corner of the world¹⁷. The second of the episodes, dedicated to Philip II's education, was composed in accordance with detailed instructions: the young prince was to be shown surrounded by his teachers and books, designs and drawings, mathematical instruments and even the scale model of a fortification, all visible in the draft drawn by Michelangelo Cinganelli [FIG. 2]¹⁸. The significance of hanging a canvas with such a subject during Philip II's funeral rites in Florence will not be lost on the reader, for that city's Palazzo Vecchio custodies the Giorgio Vasari portrait of Cosimo I de' Medici in which the prince is surrounded by his architects, engineers and sculptors or studying the conquest of Siena with a compass poised on a drawing of a fortification.

FIG. 2
MICHELANGELO
CINGANELLI,
*The education of
Philip II*, 1598,
drawing,
220 x 280 mm.
London,
British Museum.



But in addition to having a knowledge of science, the Prudent King was aware of the need for professionals such as architects and engineers to ensure the defence and conservation of his kingdoms. That need led him to foster such ambitious projects as the Mathematics Academy¹⁹. The king's particular interest and involvement in its foundation as well as its foremost aims were clearly recorded in Juan de Herrera's *Institucion de la Academia Real Matemática* (1584)²⁰. Herrera first claimed that there was «a want in the republic of skilled and perfectly trained experts for many uses and services necessary for political life»²¹. He went on to list the experts whose professions were based on mathematics: geometers, astronomers, cosmographers, pilots, architects and fortifiers, engineers and machine builders, artillery technicians, sundial makers, musicians, perspective draughtsmen, painters and sculptors. By including the last few disciplines, Herrera established the scientific status of professions that art history has long associated with beauty, not science, an approach that is in need of in-depth revision. But in addition to filling professional and scientific knowledge gaps, the academy according to this foundational text was likewise intended for «the sons of noblemen reared and taught courtier language and manners in his majesty's court and palace, affording them a praiseworthy and virtuous activity on which to spend their time honourably before they are sent to war or government office»²². The Mathematics Academy was designed, then, to convey the sciences and arts to princes and professionals, engineers among them, but also geometers, architects and cosmographers, whose skills were often subsumed into the profession practised by those awarded the title of engineer by the king. In other words, the main purpose of the Mathematics Academy, as Juan de Herrera eloquently claimed in the first few lines of his *Institucion*, was to train people called upon to render the services needed for political life, i.e., noblemen and professionals. Science was noth-

ing more than a political tool used by governmental power to rule the world, with its lands, seas and skies, and the Academy was a means to that end.

Late sixteenth century voices contemporary with the creation of the Mathematics Academy called for the foundation of technical schools to palliate the paucity of architects and engineers. One professional so concerned was a doctor, Cristóbal Pérez de Herrera, who set out some of these ideas in his *Discursos del amparo de los legitimos pobres* (1598), a treatise containing a «letter from Alonso de Barros [...], an epilogue approving Doctor Chriostual Perez de Herrera's discourse»²³, for the two authors belonged to the same intellectual circle²⁴. In part three of his *Discursos* the doctor proposed creating a trade school at Santa Isabel la Real seminar in Madrid to employ «reformed beggars» and educate their children. Pérez de Herrera also recommended choosing the most clever of the boys and creating in the largest of the kingdom's cities institutions to teach mathematics and train good pilots, architects and «excellent engineers, so necessary for military use and practice, to build impregnable fortresses and other industries needed to fortify these kingdoms and conquer others»²⁵. The main argument wielded by the doctor to persuade Philip II to implement such a project was that the crown would no longer need to hire professionals from other nations, other kings' vassals or experts from rebellious lands who, in addition to being very costly, were often disloyal to the Spanish crown. That consideration would also condition engineers' work and their success at court: their loyalty to the king or the nobleman governing in his place was requisite and closely related to the secrecy in which their work was shrouded to guarantee the kingdom's security.

PLAYING THE KNOWLEDGE AND LOYALTY GAMES

When Juan de Herrera named the professions that would benefit from the education delivered at the Mathematics Academy founded by Philip II, he associated engineers with «machine builders» because he regarded them as machine and artifice designers, whilst he related «fortifiers» to architects. Artifices and machines ultimately found their way into the title to a manuscript of considerable renown in the history of Spanish science and technology, *Los veintitún libros de los ingenios y de las máquinas*, the copy of which presently custodied by Spain's National Library was apparently made by royal architect Juan Gómez de Mora²⁶. Another inference gleaned from those documents is that fortification engineers, «fortifiers», were expert builders. That aptitude made them ideal for erecting not only fortifications and all the constituent buildings, from barracks to churches, but also other types of buildings and public infrastructures such as bridges and border stations, which also represented political power. Given their knowledge of construction, engineers were often also called upon to build palaces and gardens for a nobility that hired them indistinctly in times of peace and of war.

Whilst engineers could do the work performed by what today are known as architects, the reverse was less true, for not all architects were familiar with the applied geometry required to design fortifications, nor did they have war experience. The relationship between architecture and engineering was aptly synthesised by Botero, who wrote that

«based on the material used, fortifying a site is architecture; and based on the end pursued, military art»²⁷. Against the backdrop of the possible relocation of the court, Cristóbal Pérez de Herrera, proto-physician on Spain's galleys, proposed adorning Madrid with a new wall (among other elements that would ensure its perpetuity as the crown's capital). It would be designed by Francisco de Mora, the king's architect, together with other fortification experts, all under his orders. The author of the proposal made it clear that at the time the wall would be «more for ornamental and gating than fortification and defence purposes»²⁸ and that Mora, Juan de Herrera's successor, could build an «ornamental» wall because he, like eminent engineers, was a member of courtier circles close to the centre of power. In a nutshell, although Francisco de Mora would be unable to build a war machine able to resist an enemy army, he would know how to portray the image of power that a fortification should convey to anyone approaching its gates.

In the sixteenth and seventeenth centuries an engineer's career was determined by governors and kings, not by institutions as in the eighteenth, once training at Barcelona's Mathematics Academy was formalised. They consequently proffered their manuscripts to noblemen and kings, such as in *Arquitectura de fortificación* dedicated by an anonymous engineer who trained in Lombardy and Tuscany to Luis Hurtado de Mendoza, third Count of Tendilla and second Marquis of Mondéjar, member of the State and War Councils and knowledgeable about fortifications²⁹. Significantly, his brother Diego Hurtado de Mendoza who as imperial ambassador in Venice was responsible for the construction of the citadel that triggered the War of Siena, was one of the interlocutors in Tartaglia's *Quesisti e Inventioni diverse* in 1554. That is yet another example of the Spanish nobility's interest in science³⁰ and of technicians' and scientists' reciprocal interest in affiliating themselves with those high lords of war and peace. On occasion, such as in the aforementioned manuscript on fortification, models from antiquity were invoked as arguments: its author offered the text to the Marquis of Mondéjar «emulating the Greek who, giving August Caesar a gift said, Holy Majesty my present is not in keeping with your enormous fortune or many qualities but it is all that is in my power and if I had more it would be yours, and so I beg you remember me from time to time as an old and loyal servant»³¹.

That at times successful quest for a bond between engineers and noblemen was expressed very well by Tiburzio Spannocchi, who in 1574 when in the employ of Marco Antonio Colonna claimed to want «to live as your creation»³² in any future occupation. Whilst in their surviving writings engineers frequently deemed themselves to be the creatures or making of their masters, the historical record also shows that they were held in esteem by those patrons. At times governors and warlords placed all their trust in an engineer: Juan de Austria in Scipion Campi and Cardinal Granvela in Gabrio Serbelloni, an engineer so famous that his name appears in *Don Quixote*. In Van der Hamen's writings he is remembered as «grand prior of Hungary, knight from Milan of the Order of St John, Captain General of the Artillery with the Armada and His Majesty's army, honourable and wise, with many years of experience in fortification, not to mention thousands of other meritorious traits always present in his person»³³.

Moreover, engineers such as Spannocchi and Serbelloni were of gentle birth like



FIG. 3 Portrait of CRISTÓBAL DE ROJAS in his *Teorica y práctica de fortificación...* Madrid, 1598.



FIG. 4 Portrait of Captain CRISTÓBAL LECHUGA in his *Discurso... en que trata de la artillería... con un tratado de fortificación...* Milan, 1611.

their patrons, albeit of a lower rank. Others aspired to such ennoblement from more modest origins, such as Juan de Santans y Tapia, who in his 1644 treatise claimed to be a knight of the Order of St George and in 1645 on his return from Flanders after 15 years of service with the Marquis of Torrelaguna asked to be admitted to one of the three military orders (probably Calatrava, Santiago or Alcántara). In anticipation of something to be discussed later, his case attests to the importance attached to his Spanish origin and to the fact that he had written a book on fortifications in that language³⁴. Engineering under the Spanish crown had two notorious shortcomings: a paucity of Spanish national engineers and a very thin theoretical corpus in a language that prevailed in Europe but not in scientific and technical texts. The portraits conserved of some Spanish engineers convey the same desire to be remembered in history as the treatises in which they appeared. Cristóbal de Rojas, Cristóbal Lechuga and Juan de Santans y Tapia [FIGS. 3, 4 and 5] created images of themselves that immediately invoke the triumphant warrior (to which they all aspired) or the wise engineer ennobled with gentry status. So successful was that endeavour that in one of Santans y Tapia's portraits he has been mistakenly identified as his «patron» Francisco de Melo, Marquis of Torrelaguna, illustrating how the «making of» could lead to an ironic reversal of roles, at least in modern catalogues³⁵.

The leitmotiv of this book, the «making of» has been broached by its authors from two perspectives: that of the nobleman in a senior governmental positions with respon-

FIG. 5 Portrait of JUAN DE SANTANS Y TAPIA in his *Tratado de Fortificación militar*. Brussels, 1644.



sibilities that included waging war, in need of one or several engineers to help him fulfil his duties, and that of the engineer in pursuit of one or several masters requiring his loyal service. On occasion they shared an understanding and experience of war, for some princes and governors had engineering expertise: members of the illustrious Gonzaga or Alba lineages or the Constables of Castile, not to mention Philip II himself and governors such as the Count of Fuentes in Milan. The first and third Marquises of Leganés also merit mention in that context, in light of their knowledge of fortification and relations with engineers. The former was in charge of approving the qualifications of aspiring engineers, such as Pedro Díaz de Echevarría or Jerónimo de Soto's son and namesake, in 1639³⁶. A study of his relationship with engineers has yielded indisputable proof of these power relations, such as Camassa's dedication to him in *Tabla Vniversal para ordenar en qualquiera forma Esquadrões* (1633), in which the Jesuit author expressed his great affection for «such an eminent patron»³⁷. The third marquis, in turn, has been assumed to be the author of *Escuela de Palas*, published in Milan and attributed both to him and to the engineer Chafrión, although Tosca takes it for granted that it was written by the latter. That the text was missing in the early eighteenth century inventory of the marquis's library, which included an extensive collection of military treatises³⁸, is unusual and should be borne in mind in the context of the attribution of the



FIG. 6 *Escuela de Palas, ò sea curso mathematico*. Milan, Imprenta Real, 1693. Engraving preceding the title page.

treatise. Whilst it may have been written by the marquis as inferred by the anonymous author, shrouding his own identity, it may as readily have been penned by the engineer who gifted his master with the authorship via a play on words and double meanings that would enhance the latter's appreciation³⁹. The debate around the authorship is not a minor issue in this book, which addresses the power relations between noblemen and engineers. The treatise at issue explains all the fortification systems used from the sixteenth century on, putting in print what in other scientific contexts was limited to a splendid collection of wooden scale models of the various systems, such as the one conserved in Palazzo Poggi in Bologna. The engraving on its cover [FIG. 6] illustrates some of the questions posed in this book.

The need to ensure loyalties in a world at war was a determinant in engineers' esteem and status. Although for many years that was not always so, it did apply to those aspiring to be captains general of the artillery, such as Benedetto da Ravenna. He was not allowed to replace Captain General Miguel de Herrera in 1540 because of his non-Spanish origin, despite his many years in the emperor's service and his excellent connections in the Castilian nobility⁴⁰. And yet in 1542, the Marquis of Vasto proposed Gianmaria Olgiati, an engineer who had exchanged the Sforza for the Spanish army in Milan, to replace Luis Pizaño⁴¹. According to present knowledge, the problem of loyalty, outside the question of espionage or even treason proven to have been committed by some engineers⁴², only began to be associated with place of origin in the late sixteenth century⁴³. It can be attributed to Spanish engineers resentful of the preference accorded their Italian or Flemish colleagues. Hence the complaints raised by Gaspar Ruiz, who had trained with Spannocchi and was ultimately stationed in Portuguese fortifications, or Cristóbal de Rojas, who noted in his complaint that in addition to being from faraway lands, some of these engineers were little more than draughtsmen⁴⁴. These complaints concurred with a growing consensus among the nobility to the effect that it was better for engineers to have been «born in these kingdoms», in the words of the aforementioned Marquis of Leganés, written in 1629⁴⁵. Historical records, some unknown until now, confirm the seventeenth century preference for native Spanish engineers, although the services of Italian and Flemish engineers, also loyal to the Spanish crown, had still to be enlisted, given the circumstances.

As mentioned earlier, the author of *El Cortesano* explained that territorial mapping was an imperative for war. That information was normally furnished by engineers, one of whom, knight of the Order of St John of Jerusalem Tiburzio Spannocchi, trained mathematician, scientific draughtsman and painter, capitalised on this talent for drawing to become engineer major of the kingdoms of Spain. The need in those two centuries to produce atlases showing the major fortified cities was associated with the lords to whom they were dedicated or who had commissioned them and who appreciated them not only for their utility in war, but for the beauty that prompted their inclusion in collections and libraries.

Such atlases and the thousands of maps custodied in European archives were not the sole expression of the importance of drawing for engineering, however⁴⁶. The predominance of pictures in military engineers' work was spelled out and fully regulated in Cristóbal Lechuga's early seventeenth century proposal for soldiers and engineers written in that hotbed of scientific treatises on warfare throughout the century and military base vital to the Spanish crown, Milan. In 1670 a professional was sought within its military academy and chair to be sent to Sicily in response to an urgent request from the Prince of Ligne, inasmuch as reputed engineer Gaspare Beretta was too old and his presence in Milan too necessary for him to travel. This example affords further proof of engineers' relations with power and the control exerted over the profession, for only the king could sign such an order⁴⁷. Much earlier, in 1604 Cristóbal Lechuga (perhaps inspired by the teachings received from engineer Bernardo Richino⁴⁸ and, given his close relationship with the Count of Fuentes, backed by his own staunch belief in scientific training for artillerymen and fortification engineers) proposed that the king should create

a school in Milan for two hundred artillerymen, with seats in Milan, Pavia, Alessandria and Cremona⁴⁹. In his 1611 treatise he enlarged that initiative to include an academy for twelve engineers who would devote three days a week to the study of «things necessary to fortifications, warfare, machines, country descriptions and other engineering matters». In the academy students would become familiar with world geography through maps, although their duties would include more than warfare and land and frontier descriptions, for they were also to be able to engage in irrigating Spain with canals and mills and in «building sumptuous palaces, curious works, gardens and a thousand other such curiosities»⁵⁰. With that, the author raised to the status of theory on engineers' training what was routine practice at the time (Philip III's reign) among a nobility that resorted to courtier engineers to reform their most emblematic abodes. Lechuga's view of the profession related it both to times of war and of peace when talented engineers and magnificent palaces were indispensable instruments for representing power. His premises were aligned with one of the many stated purposes of Philip II's and Juan de Herrera's Mathematics Academy. In times of peace, the artifices and machines that carried water to gardens and fountains could also create a world of wonders in courtier and festive environments. In engineers' architectural works Herrera's unadorned, geometry-laden legacy underpinned a magnificence that flaunted its scientific foundations, eschewing the delight in ornamentation attributed to architects' productions. In warfare in turn, engineers were appreciated not only for being able to describe lands, design fortifications or propose the logistics for moving armies. They were likewise admired and often even famed for their capacity to defend a sieged or siege an enemy's fortress.

In the early sixteenth century Luca Pacioli contended that the experience of war, which made the profession dangerous while turning engineers into fellows in arms with eminent generals, had to go hand-in-hand with science. In his *La Divina Proporción*, he resorted to the Archimedes of Syracuse model to claim that «never an army worthy of siege or defence could be deemed to be fully equipped unless it included engineers and some builders of new machines especially designed for that purpose» and that without mathematics «i.e., arithmetic, geometry and proportions»⁵¹ none of those professionals could be duly qualified. While experience was an imperative, engineers' scientific training was also a concern among noblemen themselves, from the aforementioned Count of Fuentes to the Duke of Villahermosa, Carlos de Gurrea, Aragón y Borja, Governor of Flanders, who in the late seventeenth century appointed Sebastián Fernández de Medrano to head the Mathematics Academy at Brussels.

The necessarily dual perspective adopted in this book, which deals both with engineers and their patrons, leads to the realisation that those two actors, indispensable to any martial activity, shared knowledge. Pertinent in that respect are books such as Diego García de Palacio's *Diálogos militares de la formación e información de personas, instrumentos y cosas necesarias para el buen uso de la guerra* (Mexico City, 1583). According to it, a good captain had to know mathematics, arithmetic and cosmography. But equally relevant in this respect are the portraits of engineers whose science and experience brought them military success and even ennoblement (if not so endowed by birth) in a

class-conscious society where acknowledgement of status justified a hazardous life on the frontiers of a world at war.

These necessarily fragmentary considerations, limited to the Spanish crown, end with the conviction that the texts by Spanish, Italian and French specialists included hereunder broaden horizons and, like the aforementioned Sebastián Fernández de Medrano, provide insight into the changing loyalties in sixteenth- and seventeenth-century Europe. In 1696 that author dedicated his treatise *El ingeniero* to the Count of Gastañaga, Governor and Captain General of the Low Countries, «my patron and protector of this academy». When he re-edited it in 1700 under the title *El arquitecto perfecto en el arte militar*, however, as the count was no longer governor, he dedicated it to the ninth Duke of Medinaceli, for the «makings of» and loyalties also inevitably changed in sixteenth and seventeenth century European power networks.

NOTES

1. BARROS, 1588, p. 62. Alonso de Barro's treatise has been studied by: MARTÍNEZ MILLÁN, 1996. For an analysis of the print of the gameboard attached to the book, see: COLLAR DE CÁCERES, 2009.
2. The original reads: «no se ensoberbeciendo en la prosperidad de la ganancia ni se acobardando en la adversidad de la pérdida», BARROS, 1588, p. 32.
3. BURKE, 1998.
4. Alonso de Barros's library has been studied by DADSON, 1987 and CAVILLAC, 1998. It contained 151 titles, many of which on political theory, philosophy and moral instruction. The latter include two copies of *El cortesano* (Nos 98 and 130), which more than likely were translations by Juan Boscán of Baldassare Bastiglione's book; *Tractado del Consejo y de los consejeros de los Principes* (1584) by Bartolomé Felipe (No. 61); and *El estudioso cortesano* (1587) by Lorenzo Palmireno (No. 70), to name a few: DADSON, 1987, pp. 43, 44, 47 and 51.
5. CASTELLÓN, 1569, Libro I, first chapter with a description of the nobility of the Duke of Urbino's house and court: «*¶ quan noble y valeroso señor fue el duque Federico [...]*» [and what a noble and valiant lord was Duke Federico], f. 11r.
6. The original reads: «*debuxar, o traçar, y tener conocimiento de la propia arte de pintar*»; and «*mayormente en la guerra, donde comúnmente suele ser necesario saber traçar regiones, asentos, rios, puentes, riscos, fortalezas, y semejantes cosas, las quales, aunque siempre se tuuieren en la memoria (lo que quasi es imposible) no se podría[n] mostrar por otra via. Verdaderamente quien no precia este arte, paréceme hombre fuera de toda razón*», *Ibid.*, Libro I, Cap. 11. «*Que al cortesano conuiene tener noticia del pintar, y sobre este punto pasaron sutiles razones entre los cortesano*» [That it is incumbent upon courtiers to know how to paint and on that issue they reasoned subtly], f. 64r.
7. For a study of military architecture during Carlos V's reign as an essential element for interpreting the modus operandi of imperial power, see: HERNANDO SÁNCHEZ, 2000.
8. The original reads: «*con muy poca gente desbaratar grandes y poderosos exercitos*», CASTELLÓN, 1569, Libro I, f. 11r.
9. PEPPER and ADAMS, 1986. For a summary of what that war signified for engineer Tiburzio Spannocchi's training and in general for the definition of engineering as a profession in the sixteenth century, see: CÁMARA MUÑOZ, 2018, pp. 35-44.
10. On this issue, see: CÁMARA MUÑOZ, 1998, especially pp. 92-95; CÁMARA MUÑOZ, 2014b.
11. The original reads: «*porque también la guerra es propia del Rey, deue tener noticia de las cosas militares, de la calidad de vn buen Capitan, de vn buen soldado, de escoger y ordenar vn esquadron, y de las sciencias que son casi ministras del arte militar, de la Geometria, del Arquitectura, y de lo que pertenece a las artes mecánicas*», BOTERO, 1593, ff. 42r.-42v.
12. *Ibid.*, f. 42v.
13. The original reads: «*para mandar es menester sciencia*», SAAVEDRA FAJARDO, 1999, pp. 221-229.
14. The original reads: «*un esbozo de las sciencias y artes, y un conocimiento de sus efectos prácticos, y principalmente de aquellas que conducen al gobierno de la paz y de la guerra, tomando dellas lo que baste a ilustrarle el entendimiento y formalle el juicio, dejando a los inferiores la gloria de aventajarse*», *Ibid.*, pp. 226-227. On the teaching of «science» in Habsburg princes' curriculum in the years bridging the sixteenth and seventeenth centuries, see: VÁZQUEZ MANASSERO, 2018, pp. 66-91.
15. The original reads: «*en grande manera inclinado a las sciencias [...] tan eminente en la Geometría y Architectura, o por su estudio particular, o por el largo exercicio de edificar, o por su natural, o por todo Junto, que supo lo mejor desta arte con tanta eminencia y acierto, como los maiores artífices della*», PORREÑO, undated, ff. 19r.-19v.
16. In his *Diccionario histórico de los más ilustres profesores de las Bellas Artes en España* (1800), Cean Bermúdez contends that Philip II was particularly well versed in architecture and then quotes a passage taken from *Dichos y hechos de Felipe II* where Baltasar Porreño highlighted the Prudent King's geometric and architectural skills: CEÁN BERMÚDEZ, 1800, p. 80.
17. On the funeral rites for Philip II in Florence and the decorative apparatus deployed on the occasion, see: CASTELLI, 1999; GOLDENBERG STOPPATO, 1999.
18. GOLDENBERG STOPPATO, 1999, pp. 101-102.
19. Extensive literature exists on this scientific institution founded by Philip II. The reader is referred to a comprehensive study by VICENTE MAROTO and ESTEBAN PIÑEIRO, 2006, pp. 65-136.
20. HERRERA, 2006.
21. The original reads: «*falta en la república de artífices entendidos y perfectos para muchos usos y ministerios necesarios a la vida política*», *Ibid.*, p. 204.
22. The original reads: «*para los hijos de los nobles que en la Corte y palacio de Su Majestad se crían y se instruyen en el lenguaje y trato cortesano tengan, entretanto que salen a la guerra y cargos del gobierno, ocupación loable y virtuosa en que gastar el tiempo honradamente*», *Ibid.*, p. 207.
23. The original reads: «*Carta de la Alonso de Barros [...] epilogando y aproua[n]do los discursos del Doctor Christoual Perez de Herrera*», PÉREZ DE HERRERA, 1598a, ff. 151r.-156r.
24. COLLAR DE CÁCERES, 2009, p. 82.
25. PÉREZ DE HERRERA, 1598a, ff. 56v.-57r.
26. Biblioteca Nacional de España (BNE), Mss/3372-Mss/3376.
27. The original reads: «*la fortificación de un lugar, si se atiende a la materia que se emplea, es parte de la Architectura; y si el fin que se pretende, pertenece a la Arte militar*», BOTERO, 1605. It includes a treatise on fortification, p. 282.
28. The original reads: «*más de ornato y guarda, que de gran fortaleza y defensa*», PÉREZ DE HERRERA, 1598. Quoted in CÁMARA MUÑOZ, 1993, p. 171.
29. BNE, Ms. 8931.
30. VÁZQUEZ MANASSERO, 2016 and 2018.

31. The original reads: «a imitación del griego que presentando a Cesar Augusto un don le dixo sacra majestad aqueste mi presente no es según la gran fortuna y muchas calidades tuyas mas es según mi poder que si más tuviera más te diera, así yo a la qual suplico que se acuerde alguna vez de mi como de un antiguo y fiel criado», BNM, Ms. 8931, fol. 227 v.
32. The original reads: «como sua creatura vivere», quoted in NICOLAI, 2009, p. 279.
33. The original reads: «gran Prior de Hungría, Cavallero Milanés, y de la Orden de San Juan, Capitán general de la artillería de la armada y ejército de su Magestad, persona de gran calidad y juicio, muchas canas y experiencia en cosas de fortificación, sin otras mil partes loables que en el concurrieron siempre», VANDER HAMMEN, 1627, f. 175.
34. AGS, *Guerra y Marina*, leg. 1485, unnumbered folio.
35. The Spanish National Library's digital collection contains two copies of the engraved portrait of Juan de Santans y Tapia. The first, a loose print from the Carderera collection, is catalogued as «Portrait of Juan de Santans y Tapia» (BNE, IH/8677). The second portrait of the engineer, however, is catalogued as «Portrait of Francisco de Melo» (no inventory number): <http://bdh.bne.es/bnesearch/CompleteSearch.do?jsessionid=EF8B85C07F14A46908B2D931575051E3?languageView=es&field=todos&text=santans+y+tapia&showYearItems=&exact=on&textH=&advanced=false&completeText=&pageSize=1&pageSizeAbrv=30&pageNumber=2>. The exact reasons for this mistaken identification of the second portrait are unknown, for Barcia (1901, p. 657) only mentions the first. This portrait was drawn from *Tratado de fortificación militar* (1644) by Santans y Tapia and dedicated to Francisco de Melo, Marquis of Torrelaguna. That circumstance may have led to the attribution of the portrait of the author to its intended reader. SANTANS Y TAPIA, 1644, f. 2r-v.
36. AGS, *Guerra y Marina*, leg. 1006, unnumbered folio.
37. The original reads: «tan gran Patrón», quoted in PÉREZ PRECIADO, 2010, pp. 507-524. The first Marquis of Leganés played a predominant role in promoting the careers of Lombardian engineers such as Francesco Richino and Francesco Prestino. During this term as governor of Milan, Diego Mexía was endowed with nearly absolute power of decision over matters of military engineering (and vested with much greater power than other noblemen in positions of major importance such as the Duke of Medina de las Torres, Viceroy of Naples). He also had a very close relationship with Jesuit and fortification expert Francisco Antonio Camassa.
38. The third Marquis of Leganés's library was studied in a senior's thesis by PÉREZ PRECIADO, 1999. The authors thank J. J. Pérez Preciado for allowing us to consult that unpublished paper, which includes a transcript of the library inventory.
39. On attribution to the Marquis of Leganés, see COBOS, 2017. As TOSCA (1727, p. 279), did not hesitate to attribute it to engineer Josef Chafrión, perhaps the question should not be deemed to be fully settled, despite Cobos's excellent study.
40. BURY, 1994, p. 33.
41. LEYDI, 1986, p. 165.
42. CÁMARA MUÑOZ and REVUELTA POL, 2018.
43. On the issue of natives under the Spanish crown, see GARCÍA GARCÍA and ÁLVAREZ-OSORIO ALVARIÑO, 2004.
44. CÁMARA MUÑOZ, 2014a.
45. AGS, *Guerra y Marina*, leg. 1006, unnumbered fol. On Pedro Díaz de Echevarría, who studied mathematics in Spain and Italy, in particular geometry and arithmetic, navigation, fortification and artillery to serve the king as engineer in Flanders or Italy, the marquis wrote that «juzgo por muy conveniente sean naturales destos reynos los que trataren desta profesión como este lo es» [I deem it highly advisable for such professionals to be natives of these reigns, as he is].
46. CÁMARA MUÑOZ, 2016.
47. AGS, *Estado*, leg. 3489, f. 138.
48. GATTI PERER, 2004, p. 25.
49. AGS, *Estado*, 1293, fols. 23 and 24. He believed that engineers, with the exception of those of the Chamber and the Castle at Milan, should receive their salary from the artillery «y que hagan una escuela dellos para que, en presencia del general de la Artillería o de su Teniente, traten de la fortificación de una fuerza, ciudad o cuartel, y del modo de ofender y defender cualquiera de las tres cosas» [and a school be created around them so that, in the presence of the general of the artillery or his lieutenant, they may explain how to fortify a fortress, city or barracks, and how to attack and defend any of those three].
50. The original reads: «de cosas necesarias a fortificaciones, guerra, machinas, descripciones de países, y de las demás cosas de Ingenieros» and «hazer palacios suntuosos, obras curiosas, xardines, y otras mil curiosidades», LECHUGA, 1611, pp. 274 and 275. On Lechuga and his relations with the Count of Fuentes, see GIANNINI, 2000.
51. The original reads: «jamás ningún digno ejército de asedio o de defensa podrá considerarse totalmente equipado si en él no se encuentran ingenieros y algún maquinador de cosas nuevas especialmente destinado a esta misión» and «es decir, aritmética, geometría y proporciones», PACIOLI, 1991, pp. 34 and 35.

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I

NOBILITY AND ENGINEERING

I say not engineers but men: the Toledo family and Sixteenth Century fortification policy

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IN CASTRO COLOCATAM

The armoury square in the citadel at Antwerp was the venue, on 19 May 1571, for the unveiling of a statue of the third Duke of Alba. Sculptor Jaques Jonghelinck, a disciple of Milanese Leone Leoni, may have been inspired by the latter's *Charles V restraining fury*. The duke's statue, forged from cannons taken from the rebels at the battle of Jengum in 1568, portrayed him dressed in modern armour standing on a pedestal bearing reliefs alluding to the compassionate governance of the Good Pastor, restraining sedition (represented as a two-headed monster) and bringing peace, sword held behind him and hand outstretched in a Marcus Aurelius-like gesture. That political message, attributed to Benito Arias Montano and further disseminated in an engraving by Philipp Galle with the legend *STATUAM AENEAM ALBAE DUCI PACIFICATORIS HABITU ANTWER-*



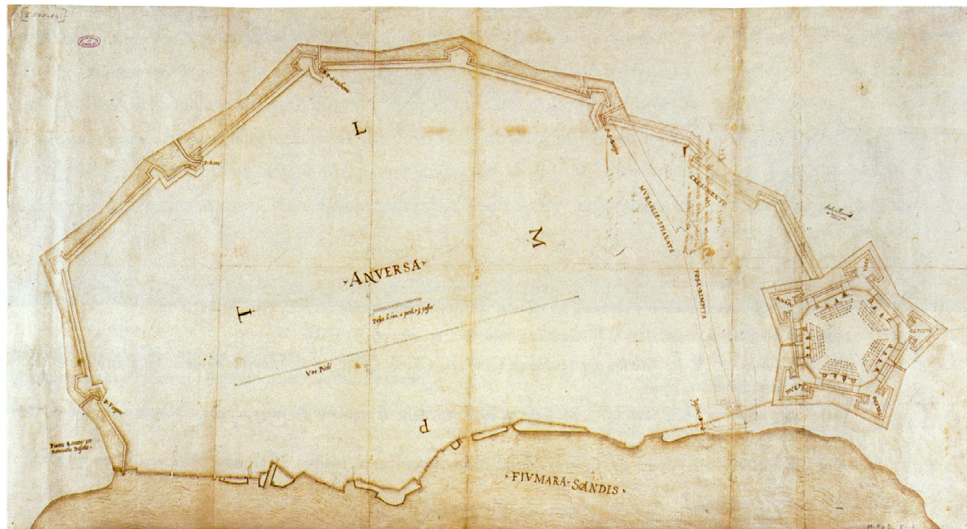
FIG. 1 PHILIPP GALLE, *Statue of the third Duke of Alba at Antwerp citadel*, engraving. British Museum.

PIAE IN CASTRO COLOCATAM [bronze statue of Alba in peace-keeping garb sited at Antwerp castle] was quickly critiqued in the court by the governor's enemies as a symbol of presumed royal ambitions. Despite its peace-making intentions, imbued as it was with the belligerent notion of *auctoritas*, the statue was identified as a token of tyranny and satirised in prints circulated by the Flemish rebels. With a change of factions in the court and Alba's replacement by Luis de Requesens as governor of the Low Countries, the statue was discreetly removed on June 1574 on the king's orders, albeit over the protestations of Sancho Dávila, citadel commander and military adviser loyal to Alba¹ [FIG. 1].

The symbolic appropriation of military space, emulating Italian precedents such as the equestrian statue of Francesco Sforza at Milan castle (designed by Leonardo for Ludovico il Moro, whose clay model was destroyed by French troops), was the culmination of the controversy around the political aim of urban fortresses, mirrored in the institutional complexities and patronage relationships to which construction was subject. The Antwerp citadel was built against that backdrop, based on the Duke of Alba's proposal to the secret Council convened by Philip II in Madrid on 25 November 1566, in which the by then veteran soldier and politician managed to impose his opinion (founded on sound precedents in both Italy and Flanders) that urban fortresses were needed to suppress rebellious populations. Further to that programme, governess Margarita de Parma undertook works in several cities and sent local engineer Jacques Van Noyen and her court engineer Francesco de Marchi to Antwerp to choose the site and draft the initial design. Alba's arrival in the summer of 1567 altered the patronage and governmental relationships surrounding construction. He cancelled the agreements made by Margarita with the local authorities and urged Francesco Paciotto, another of the former governess's court architect-engineers, to draw a design better suited to the needs of surveillance and dissuasion. Rather than Marchi's idea to site the citadel outside the city to assuage local opposition, the new governor opted for Paciotto's proposal to build it at one end of the city wall, despite the criticism voiced by other experts such as Chiappino Vitelli or Gabrio Serbelloni in connection with inadaptation of the terrain and the flaws in the layout itself². The design authored by Paciotto (who soon returned to Italy) followed a standard pentagonal ground plan enclosed in a circle he had applied at Torino. That approach was the object of further criticism that ultimately led to changes, although the site chosen on the grounds of political criteria was retained³. The Duke of Alba was to intervene decisively in the process, as clearly inferred from a well-known letter dated in Brussels on 23 July 1569, in which the governor described works progress to Philip II:

«On the 27th of last month I went to Antwerp to decide about new parapets the engineer wants to build on the five cavaliers that I found with the cordon and curtain walls already in place [...]. I can ensure Y.M. that this is the world's most handsome square. I was not happy about the parapets; the ditches are dug, but not as deeply as they should be in some areas, although little needs to be added width-wise, around twenty feet or less. I also ordered the entrances be roofed and moats dug parallel to the counterscarp. The square inside is the most cheerful thing I have ever seen. I had five new outlets to the moat built and the height of the casemates raised, which have enhanced it generally. Very short stones had been placed on the bastions, barely corbelling over the curtain wall, with the smaller

FIG. 2
DOMENICO
DA FANO,
Anversa,
[1568]. Map
of Antwerp
wall and
citadel.
España,
Ministerio de
Cultura y De-
porte. Archivo
General de
Simancas,
MPD, 10, 3.



below and the larger above: I had all the lower ones lengthened and staggered inward up to the cordon, to quite a pleasing result» [FIG. 2].

The duke's detailed instructions attest to the breadth of his knowledge and architectural dynamics per se, in keeping with his opinion of engineers:

«Allow me to say, Y.M., that you are most fortunate to have Captain Bartholomeo Campi, specifically because he is a soldier and skilled, although less than Pachote, but well trained and with gifted conversation; and he is the most honourable man with whom I have dealt of all those I have known, and I say not engineers but men of whatsoever talent, and he is very candid and works cheerfully [...]»⁴.

The career of Francesco Paciotto, author of the initial design for the fortress, reveals the influence of patronage in architectural controversies. Trained at the Urbino court, a famous centre for military architecture⁵, his subsequent association with the Farnese family positioned him in the Spanish court in the faction coalescing around the Prince of Eboli, the Duke of Alba's arch-adversary⁶. In 1562 Paciotto went to Naples as a military engineer in the service of Viceroy Pedro Afán de Ribera, first Duke of Alcalá and prominent member of the Ebolist faction⁷. His critique of the first design for the Escorial authored by Juan Bautista de Toledo can be read against that backdrop, for the latter was associated with the Naples of Viceroy Pedro de Toledo⁸. Bartolomeo Campi, in turn, a member of the Pesaro nobility, was a renowned goldsmith, scenographer and civil engineer from a very early stage in his career, likewise spent in the Delle Rovere court at Urbino. In 1553 he travelled to France where he continued to engage in these and other soldierly activities that earned him fame until he was hired (along with his son Scipione, also an engineer) by the Duke of Alba in 1568⁹. Unlike Paciotto, «inherited» from Farnesian rivals, Campi could be presented as a valuable trophy seized from the French enemy and consequently in a certain sense, the «making» of the head of the Toledan faction. No praise was spared to emphasise the importance of such a prized acquisition.



FIG. 3 FRANS HOGENBERG, *Destruction of Antwerp citadel*, 23 September 1577. The Picture Art Collection / Alamy stock photo.

For the Duke of Alba, Campi's worth, together with his «candour» and «cheerful» work, was a value above and beyond «whatsoever talent» and of higher priority than his (in itself) hallowed soldierly status and skill, acknowledged to be of less merit than his predecessor's. Despite Paccioto's prestige, as reflected in the use of his name to designate one of the five bastions on the Antwerp fortress (pairing it with the duke's own, by which the other four were known: Fernando, Duke, Toledo and Alba), he was not immune to criticism by experts such as Campi or the concomitant changes to a structure imbued with symbolic substance that ultimately led to the ritual demolition of its urban flank in 1577¹⁰ [FIG. 3].

Symbols, resources and conceits such as used by the Duke of Alba attest to engineers' professional promotion, wrought through military and technical careers, defensive options and constructional layouts that conditioned the exercise of power and were indivisible from the patronage afforded by the nobility and the court. Several members of the Castilian branch of the Toledo family, such as the second Marquis of Villafranca Pedro de Toledo, viceroy of Naples from 1532 until his death in 1553¹¹, and his nephew the third Duke of Alba¹², played leading roles in that context. Their actions conditioned the theory and practice of a type of knowledge that formed part of courtier culture¹³, as

illustrated by the architectural references in their correspondence¹⁴ and the academy founded by the third Duke of Alba in Madrid to discuss architecture and mathematics with other Spanish aristocrats and even cultivate drawing and building design¹⁵. The Toledo family's relationship with fortification was also influenced by political attitudes that determined a preference for citadels, culminating at Antwerp. Further to contemporary military and political treatises, the Spanish monarchy stood at the core of the controversy around the domestic use of fortresses introduced by Machiavelli as one of the challenges of the ongoing exercise of power¹⁶.

ERECTORI JUSTITIAE

Like his nephew whose statue was removed from Antwerp, Viceroy Pedro de Toledo of Naples was accused of ambitioning the throne, in this case on the grounds of a medal in which he was described as OPTIMO PRINCIPI ERECTORI JUSTITIAE [optimal ruler and erector of justice] to commemorate another architectural endeavour: the 1540 reform of the former royal residence at Castel Capuano to house all the Parthenopean city's courts¹⁷ [FIG. 4]. In 1548 the viceroy commissioned frescoes highlighting justice for the chapel forming part of the new courts' committal proceedings bench (on which funding for fortifications depended) from Pedro de Rubiales, a painter from Extremadura. The viewer's attention is drawn to the Pietà on the high altar and to the admonitory reference behind the cross to the 1547 revolt against the viceroyalty in the form of the new fortress at Sant'Elmo, from which the rebellious city had been bombarded¹⁸ [FIGS. 5 and 6].

In the Naples of Pedro de Toledo civil and (always «political») military architecture was the vehicle for the conversion of unprecedented swathes of public and private space that led to urban development and the staging of power in Europe's second-largest city after Paris¹⁹. Construction was in fact the endeavour that best depicted the «iron viceroy's» government, in keeping with recent family history (enriched by his membership in the Order of Santiago and in the case of other kinsmen, in the Order of St John, famous for its poliorcetic tradition²⁰). In that respect Don Pedro followed in the footsteps of his father Fadrique Álvarez de Toledo, second Duke of Alba who combined a political and military career with the conversion of the Alba de Tormes family's former fortress into a palace in keeping with the Catholic Monarchs' courtier taste. In 1503 Fadrique commanded the defence of Rosellón and the new fortress at Salsas against an attack by Louis XII of France to counter the advance of the Grand Captain at Naples and in 1512 he, to-



FIG. 4 ANONYMOUS, *Medal with the effigy of Viceroy Pedro de Toledo*, 1540. Madrid, Museo Nacional del Prado, n° inv. 0001027. © Archivo Fotográfico Museo Nacional del Prado.



FIG. 5 PEDRO DE RUBIALES, *Sumaria Chapel with the Pietà*, 1548. Naples, Castel Capuano.



FIG. 6 PEDRO DE RUBIALES, *Pietà* (detail of Sant'Elmo Castle), 1548. Naples, Castel Capuano.

gether with his second son Pedro de Toledo, conquered Navarre²¹. During the younger Toledo's viceroyalty of Naples, its European, Italian and Mediterranean coordinates led to its conversion into a fortified kingdom, attested to by its massive urban and coastal structures and its status as the venue for the first Spanish treatise on fortification ever written, dated in 1538 and dedicated to the viceroy. Its author, Pedro Luis Escrivà, knight commander of the Order of St John, had governed urban fortresses such as at Sant'Elmo and the castle as L'Aquila²².

In his treatise Escrivà simulated a dialogue with the lower orders to respond to the criticism voiced, under

the guise of technical discrepancy, by the viceroy's political adversaries. The opposition to urban fortresses expressed by one of the most prominent, Marquis del Vasto Alfonso de Ávalos y Aquino²³, would be explicitly set out in a treatise written by Mario Galeota at Naples in the fifteen fifties. Along with Escrivá and officers such as Hernando de Alarcón, first Marquis de la Valle Siciliana (who died in 1540), other engineer-architects including Baron Gian Giacomo dell'Acaia culminated the defensive transformation of the kingdom and enlarged its capital to both military and political criteria²⁴. In 1545, don Pedro appointed architect Ferdinando Manlio «engineer of the royal court» to supervise all the civil and military works conducted in the city. Its enlargement would tend to separate the military zone from the quarters inhabited by the upper and lower classes²⁵. The major civil works and the reform of the bastioned belt around Castel Nuovo and Capua Castle were also commissioned from Manlio. His military experience was to bear on his palatial endeavours, such as the vice-royal residence in Naples or don Pedro's villa at Pozzuoli²⁶. A new villa and garden culture drew from the technical and human resources of civil (inseparable from military) engineering²⁷, as well as the intense patronage²⁸ likewise engaged in by other *pro reges* such as Ferrante Gonzaga, Juan de Vega²⁹, the third Duke of Alba (the driving force behind the garden at Abadia from 1555) and don Pedro's second son, García de Toledo, whose governmental proclamations were to be identified with the Astraeon myth of the restoration of justice that sought rebirth through construction.

García, who forged a brilliant military and political career as commander of the Naples galleys, was also well versed in fortification, on which grounds his father entrusted him with inspecting Capua Castle in 1552. Two years earlier he had been one of the architects of the taking of Mahdia on the North African coast from the corsair Dragut in an operation characterised by technical innovations authored by engineers such as Andronico Spinosa. García himself is attributed with devising a system to strengthen naval batteries by building a platform on the deck of two galleys, inspired by a stage setting for a play authored by Luigi Tansillo, vice-royal court poet, performed at Messina harbour twelve years earlier³⁰. Spinosa worked at Naples, where in 1552 he appears as «engineer of the royal court» «overseeing the forging of the royal artillery and other things of engineering», and participating in the War of Siena under the orders of Viceroy Pedro de Toledo³¹. That campaign, undertaken to quench opposition to the erection of an imperial fortress in 1550, was one of the primary scenarios for experiments in military engineering³². Experts from all across Italy were enlisted to ward off the rebels and their French allies. From Florence, Don Pedro asked Spanish Ambassador Francisco de Vargas to send him an engineer from Venice, a kingdom deemed to stand at the avant-garde of fortification. Tommaso Scala was ultimately entrusted with the commission³³. Giambattista Bellucci da San Marino, renowned fortification engineer and theorist, disciple and kin of Girolamo Genga who had also served Cosimo de' Medici³⁴, likewise worked with García, who took command of the Spanish troops after the death of his father and inspired a complex combination of mines and artillery during the siege of Montalcino [FIG. 7].

Under the rule of the third Duke of Alba as viceroy of Naples and governor of Milan (1555-1558), the Duke of Guisa's French invasion and the war against Pope Paul IV (Giovanni Pietro Carafa, 1556-1557) revitalised the Toledo family's positions in Italy.



FIG. 7 GIROLAMO MAGGI and IACOMO CASTRIOTTO, *Della Fortificatione delle città*, Libro Terzo, Chap. XXII, 1583, Venice, Camillo Borgominiero. Siege of Montalcino by García de Toledo's troops during the War of Siena in 1553.

García supervised the fortifications at Nola, Ariano and other cities in the Kingdom of Naples as general of the Spanish infantry and in March 1557 was appointed Alba's Deputy General, whilst one of his wife Vittoria Colonna's relatives, Vespasiano Gonzaga Colonna Duke of Sabionetta, a leading expert in military architecture, commanded the Italian infantry³⁵.

As viceroy of Catalonia from 1558 to 1564, García applied his Neapolitan experience in fortification in works such as the reformation of Perpiñán Castle. It was during his term as viceroy of Sicily, however, from 1564 to 1567, when he culminated his architectural patronage, geared primarily to coastal defence. He patterned urban reform in Palermo to the Neapolitan model, including a new thoroughfare running in a straight line between the harbour and the vice-royal palace, additions to the walls and a new harbour³⁶. Such endeavours substantiate the viceroy's preference for the capital over the rival Messina and his intention to make Palermo harbour the hub of an ambitious Mediterranean strategy. After the successful defence of Malta in 1565, García fortified major Sicilian harbours such as Augusta and in 1565 and 1566 supervised the fortification of Malta and La Goletta, where he sent engineer Gabrio Cervelloni³⁷. Throughout those years and until his death in 1578, García relentlessly advised on new harbour projects and fortifications at Naples from his villa at Pozzuoli, where, along with his younger brother Luis de Toledo, he also oversaw the adornment of its gardens³⁸.

«[...] *only of honourable and noble men*»

Pedro and García de Toledo's and the third Duke of Alba's architectural careers were conditioned by the alliance between the Toledo and Medici families after Don Pedro's youngest daughter Leonor married Cosimo I in 1539. A political, cultural and also largely architectural and mutually influential partnership was formed between Florence and Naples³⁹, where the presence of military experts, soldiers and «men of whatsoever talent» prevailed in the service of the two families⁴⁰. Of particular prominence was the Aldana dynasty, a family from Extremadura transplanted to the Parthenopean kingdom. Antonio de Aldana came to Florence with Leonor de Toledo and was appointed governor of the Tuscan fortresses at Livorno (1546-1554) and San Miniato (1554-1570), possession of which had been returned to Cosimo I by Charles V on the advice of Viceroy Toledo and his lineage. Antonio's brother Bernardo had fought in Hungary in 1548⁴¹ and in the fifties served in Naples as field marshal under the command of the Duke of Alba. On 1 January 1559 Bernardo de Aldana sent Philip II a list of «this kingdom's lands and seacoasts» that he had inspected the year before in two voyages from Naples, one by order of Fadrique de Toledo, who had succeeded his father the Duke of Alba as Lieutenant General, and the other under the successor of the latter, Juan Manrique de Lara. The list began with the castle on Brindisi Island, the frontier on the Adriatic coast most openly exposed, as «the most important thing in this kingdom, because it is the harbour defence from the island to the city, where countless vessels and galleys could gather [...]». Whilst the integration between fortified and naval power, highlighted by the proximity of the Turks, concurred with one of Pedro and García de Toledo's priorities, the description of the construction system illustrates the routine collaboration between captains and engineers and the circulation of drawings between the court and a frontier where the pressure borne required constant revision of defence layouts:

«Don Fadrique de Toledo sent me there to remedy what I could, together with Antonio Conde, whose design for a fort, sent to Your Majesty, suffices to ensure that no-one could land on the island and to protect the castle from any battery, but since I was later sent to other areas, those works progressed so little that when the [Turkish] armada arrived, it was just beginning to be built. Don Fadrique then ordered me to return and defend it and I had the fortification strengthened and with it in its new state and with some repairs on the cladding I awaited the armada [...] which sailed by most safely without attacking [...]».

In his report on the Taranto fortress, Bernardo de Aldana identified the need to strengthen the bastions and widen the ditch, noting that changes in the person of the viceroy obstructed works progress, which had acquired a good pace in recent years: «but with the change in viceroy the Tarantanos asked me for an order from the new one and before they were heard and it was issued time lapsed up to now, and danger is ever near [...]». The description of the works for Pescara castle on the Abruzzo coast nonetheless holds the greatest historical interest, for it afforded Aldana the opportunity to criticise Venetian engineer Giovanni Tommaso Scala, hired by Viceroy Pedro de Toledo at the beginning of the War of Siena:

«Juan Tomas has arrived and begun to build the foundations less deep than I saw them initially and a thinner the wall, on the pretext of saving the court half of the thickness formerly used on the wall and by provincial masters generally. And those who know anything about walls say the foundations are unsafe and that loading the embankment walls they must support will not cover the fortress, so that this attempt to save will lead to greater thickness. Juan Tomas's design is fine but for its construction he would do well to follow the advice of our builders. And Juan Tomas should always be escorted by someone knowledgeable of certain things, primarily because a stronghold of such importance that might be said to border Venice should not be wholly entrusted to a foreigner and Venetian. Furthermore, all Juan Tomas's designs for these works have had to be amended. And he is a man who when most needed takes his leave and goes wherever he pleases with no other licence, as he has done now [...] going to Venice. God bid him return for we have none other than he unless someone else is sent from there [...]»⁴².

Acknowledgement of the paucity of design engineers did not lessen the mistrust heaped on Scala due to his Venetian origin, reinforced by constructional discrepancies in a constant symbiosis of political and technical critique particularly characteristic of the Duke of Alba's entourage. That criticism is especially revealing because it was levelled against an engineer of the repute of Scala, famous for authoring treatises that discredited fortress construction by conventional architects whom he deemed to be overly theoretical⁴³. To continue to attend to the pressing need for defence Aldana asked to be officially confirmed as «head of artillery and works»⁴⁴. One month later the Duke of Alba, who was at Cateau Cambresis negotiating peace with France, wrote an extensive «Opinion in response to the report of Field Marshal Aldana on the maritime coasts of the Kingdom of Naples». Alba supported Aldana's proposal referring, for instance, to his own intention to make the fortress at Civitella del Tronto, damaged during the recent French invasion, «as handsome as I designed it, for finished it is a fort that no soldier would be idle in [...]» About Capua he insisted on the need to avoid any risk of espionage, for «the castle is in ruins and in the worst and most dangerous area of those lands and that is why I protected it behind two curtains and two bastions: and yet another is needed. I gave oral instructions on how and where that should be done because as this is to be a [defensive] site, it cannot be set down in writing or drawings»⁴⁵.

After Bernardo de Aldana met his death in 1560 when taken prisoner by the Turks in the attack on Djerba, his achievements as Captain General of Naples Artillery were most aptly perpetuated in his nephew Francisco's military and poetic career. The «divine captain» was another archetypal «man of whatsoever talent» extolled by the Duke of Alba, with whom he went to Flanders. Born in Naples and trained in Florence with his father (Antonio the Castilian⁴⁶), Francisco arrived in Madrid from the Low Countries some time before October 1576 (and was appointed governor of the castle at San Sebastián in the Basque country shortly thereafter) when he wrote his *Octavas a Felipe II*, with a dedication in which he exhorted the king to improve the defence of a threatened monarchy⁴⁷. The heroic tone of the poems befits their clear view of the political and military situation that made Spanish power, given its geographic dimensions, vulnerable to attack from land and sea. As Tiburzio Spannochi wrote, the same realistic outlook that was accus-

tomed to measuring the terrain and carrying arms was the one that guided the eyes of viceroys and generals peering over engineers' drawings⁴⁸. Its horizon was power that rested on networks of friends and relatives that fed elites, consolidated loyalties and wove interests. Captain Aldana, used to inspecting fortifications with the gaze of someone who grew up in the shadow of majestic works in Naples and Florence, combined the elevated universality of his *Octavas* with a secret hope of reclusion in his *Epístola a Arias Montano*, synthesis of neo-Platonic thinking that he, like Benedetto Varchi, assimilated in the court of Cosimo I de' Medici and Leonor de Toledo. Aldana, poet of war and peace, who observed the firmament the same way he assessed defences on land, was knowledgeable about fortification, an imperative in someone who wielded both sword and pen, in keeping with a family tradition forged under the protection of the Toledo family. Proof of that expertise lies in his inspection of the defences in northern Africa in 1577, one year before his death at Alcazarquivir. In that battle he fell prisoner to Bolognese engineer Filippo Terzi (like Campi and Paciotto, trained in the court of the Dukes of Urbino), who a few years later would assume responsibility for the major civil and military works in Lisbon after it was taken by the Duke of Alba⁴⁹.

In the third Duke of Alba's last military episode, the Portuguese endeavour, he was advised by military experts in fortifications such as his son Hernando de Toledo⁵⁰, Sancho Dávila⁵¹ and Francés de Álava (Captain General of Artillery), and by Italian engineers Giovanni Giacomo Fratin and Giovanni Battista Antonelli⁵². Once the occupation was consummated, Alba was again confronted with the controversy aroused by citadels on the occasion of the possible establishment of a permanent force in Lisbon and the construction of new fortresses. As in Italy and Flanders, the duke alternated appeals to harmony with threats of reprisal, although true to practice, he called on his engineers for both technical and political advice. In December 1580 Antonelli, who initially advised Alba to establish a Castilian regiment in San Jorge Castle, recommended against treating the Portuguese capital any differently to other Spanish kingdoms (unlike in Milan, Naples or Antwerp), for construction of a new urban fortress would entail an unacceptable burden for the population, who would feel it like «the malaise of an unusually harsh bit»⁵³.

The third Duke of Alba, who was to die at Lisbon without implementing his fortification policy there, had seen his leading role in that essential dimension of modern power acknowledged in *Dialogo tra il Re di Spagna et il Duca d'Alva, descritto da Bernardo Giustig^o Ribasso Genovese. Trattasi se sia bene et riuscibile al detto Rè impadronirsi della Città di Genova o almeno farsi una Fortezza, et altre particolarità*⁵⁴. That text, composed against the backdrop of the Genovese revolts of 1574, is one of the most thorough descriptions of the purpose of urban military architecture in monarchical government. Alba was depicted as an expert politician familiar with the history of the founding, institutions and factional struggles of the Ligurian Republic, arguments pivotal to the debate on the advisability of building fortresses. The art of governance, the command of information, the ability to maintain and tighten consensus were wielded as the ultimate fundamentals of defence and the conservation of power complementary or, as appropriate, alternative to citadels.

The controversy pursued Viceroy Pedro de Toledo in the Neapolitan fortress at Sant'Elmo (where his coat of arms on the shields of the seated warriors still proudly flanks



FIG. 8 Charles V's coat of arms flanked by warriors bearing the coats of arms of Pedro de Toledo. Naples, Castel San Telmo.

the imperial eagle over the portal) and the less fortunate Duke of Alba at Antwerp and Lisbon, where his projects never materialised or were destroyed [FIG. 8]. Their descendants in the two major branches of the Toledo lineage continued to advocate for aggressive attitudes in the defence of the monarchy and their own political premises. Pedro de Toledo, fifth Marquis of Villafranca (grandson of the eponymous viceroy of Naples), alternated his knowledge of fortifications (applied during his rule in Milan and during the First Monferrato War) with the palatial reform of the family's castle at Villafranca del Bierzo, built by his grandfather⁵⁵. Architects and engineers (in the end, just men, in the court or on the frontier) continued to bring their designs to life and depict their dreams together with military captains. Drawing plans and reconnoitring ditches, they sought to orbit around that great Castilian lineage, trying their luck in the theatre of power and war played out in fortresses in Italy, Flanders and the Mediterranean. Striving to prove their worth in the practice of arms, even in the cold cruelty of artillery portrayed in stone with a draughtman's precision, they were, as Francisco de Aldana wrote, «only honourable and noble men»⁵⁶.

NOTES

1. See *Declaración de la estatua de metal de a estatua del duque de Alba y de otros que se han puesto en el castillo de Amberes*, Archivo General de Simancas (AGS), *Estado*, leg. 549-153; HÄNSEL, 1990 and HÄNSEL, 1999.
2. DE GROOF and BERTINI, 2000, p. 409.
3. VAN DEN HEUVEL and ROOSENS, 2000.
4. The original reads: «A los 27 del pasado fui a Amberes para determinar unos parapetos nuevos que este ingeniero quiere hacer sobre los cinco caballeros que hallé ya al cordón y las cortinas hechas [...]. Puedo asegurar a V. M. que está la más hermosa plaza del mundo. No me contentó la invención de los parapetos; los fosos están abiertos, aunque no todo lo que se ha de abrir en algunas partes; pero falta muy poco en el ancho, como veinte pies o poco menos. Ordené también las entradas cubiertas y contrafosos. Está la plaza de dentro la más alegre cosa que he visto. Héle ordenado de nuevo cinco salidas al foso y crecidole las casas matas, que le ha venido muy bien. Habíanme puesto en los sperones de los baluartes las piedras muy cortas que entran poco en la cortina, y las menores abajo y las mayores arriba: hágole añadir todas las de abajo mucho y que vayan disminuyendo hasta parar al cordón, que parecerán muy bien»; and «Yo digo a V. M. que tiene gran cosa en el capitán Bartholomeo Campi, porque derechamente es soldado y tiene arte, aunque no tan fundada como el Pachote, pero muy fundado y muy gran plática, que se responde muy bien; y es el mejor hombre que he platicado después que conozco hombres, no digo aun ingenieros sino hombres de cualesquier cualidad, muy llano y muy alegre al trabajo [...]», *Colección de Documentos Inéditos para la Historia de España* (CODOIN) vol. XXXVIII, pp. 120-121.
5. COPPA, 2002.
6. HERNANDO SÁNCHEZ, 1998; HERNANDO SÁNCHEZ, 1999.
7. HERNANDO SÁNCHEZ, 2008.
8. RIVERA BLANCO, 1984, pp. 67-100; MARÍAS, 2001.
9. In a letter written on 1 February 1573 from «the field over Harlem», Scipione Campi reminded the Duke of Alba of «*con quant'amor et fede la buona memoria di mio padre et io habbiamo in ogni tempo et occasione carc[at]o di complire con ogni forza nostra al servizio di vostra Ecc^a, al qual venuti siamo per sua richiesta, lasciando per altra parte il servitio d'un re di Francia principiato venticinque anni inanzi*» [with how much affection and loyalty my fondly remembered father and I had at all times and occasions deployed all our strength to serve Your Excellency, to whom we came at your request, for which we abandoned the service of a king of France undertaken twenty-five years previous]. BERWICK and DE ALBA, 1952, p. 397; ÁLVAREZ DE TOLEDO, 1952, *ad indicem*.
10. VAN DEN HEUVEL, 1989; VAN DEN HEUVEL, 1994; CÁMARA MUÑOZ, 1998a, p. 166; CÁMARA MUÑOZ, 1998b.
11. HERNANDO SÁNCHEZ, 1994.
12. MALTBY, 2007; DEL SER QUIJANO, 2008; EBBEN, LACY-BRUIJN, VAN HÖVELL TOT WESTERFLIER, 2013.
13. HERNANDO SÁNCHEZ, 2003.
14. MARTÍNEZ HERNÁNDEZ, 2003; FERNÁNDEZ VÁZQUEZ, 2007.
15. MARTÍNEZ HERNÁNDEZ, 2004, pp. 85-90.
16. HALE, 1983, pp. 197-206; GIANNINI, 1998; ÁLVAREZ-OSSORIO, 2000.
17. SCOGNAMIGLIO CESTARO, 2008-2009; LOFFREDO, 2011.
18. REDÍN MICHAUS, 2007, pp. 203-217.
19. HERNANDO SÁNCHEZ, 2008.
20. MADRID Y MEDINA, 2008.
21. LADERO QUESADA, 2010; HERNANDO SÁNCHEZ, 2012.
22. HERNANDO SÁNCHEZ, 2000a.
23. HERNANDO SÁNCHEZ, 2000b.
24. BRUNETTI, 2006. Cfr. DI RESTA, 1988; RINALDI, 1997.
25. PESSOLANO, 1998.
26. STRAZZULLO, 1968, pp. 13-15; DE DOMINICI, 2003, pp. 610 s., 613-617.
27. HERNANDO SÁNCHEZ, 2013.
28. HERNANDO SÁNCHEZ, 2016; BRUNETTI, 2016.
29. GIANNINI, 1998; ARICÒ, 2016.
30. SALAZAR, 2015; BASKINS, 2017.
31. The original reads: «*Ingegnero della Regia Corte*» and «*attende in lo fondere de la regia artegliaria et altre cose de Ingegniero*», Real Biblioteca de Palacio (RBP, Madrid), ms. II/1597, ff. 145, 195, 203v.-204, 245, 274v., 327v., 356 and 390.
32. See PEPPER and ADAMS, 1995, pp. 62-66; GIANNINI, 1998, pp. 463-464.
33. Archivo Ducal de Medina Sidonia, Sanlúcar de Barrameda (Cádiz) (ADMS), leg. 4336. Florence, 4 February 1553.
34. RBP, ms. II/138, f. 55v.
35. One example of this military and political process can be found in Alessandro Andrea's *Della Guerra di Campagna di Roma e del Regno di Napoli nel pontificato di Paolo IV l'anno 1556 e 1557*. It contains «*tre ragionamenti, nuovamente mandati in luce da Girolamo Ruscelli*» [three considerations, newly brought to light by Girolamo Ruscelli], dedicated to the new viceroy of Naples, Pedro Afán de Ribera, further to the Venetian edition dated 8 November 1559. A Spanish translation was published in Madrid in 1589. See SANTARELLI, 2008.
36. BERMEJO MALUMBRES, 2013; VESCO, 2017.
37. VIGANÒ, 2004, pp. 149-157.
38. BOSCH BALLBONA, 2016.
39. HERNANDO SÁNCHEZ, 2007; HERNANDO SÁNCHEZ, 2009.

40. PLAZA, 2016.
41. KOPÁS, 2000; ESCRIBANO MARTÍN, 2010.
42. The original reads: «Don Fadrique de Toledo me embio alla para dar el remedio que en ello se pudiesse, lleve conmigo Antonio Conde y designose un fuerte cuya traça se a embiado a su Magestad suficiente a defender que nadie pudiesse desembarcar en la isla con lo qual se aseguraba el castillo de bateria, pero como a mi me mandaron yr luego en otras partes, esta obra caminó tan poco que cuando venia el armada [turca] se començava a fabricar. Don Fadrique me mandó luego tornar allí, para defender aquello y hize dar una buena mano a la fortificación y con el ser en que se puso y con algunos reparos de faxina espere el armada {...} y lo mas seguro fue pasar sin que nos acometiesse [...]»; and «ha venido Juan Tomas y a començado a hacer los fundamentos en menos fondo que los que hallo començados y la muralla por medio mas delgada, diciendo que quiere ahorrar a la corte la mitad de la espessa que antes se hacia en la fabrica y generalmente los maestros de la provincia y los que algo se entienden de fabricas dicen que los fundamentos van falsos y que cargando los muros del terraplano que an de llevar no lo cubrirán, por donde pensando ahorrar se vendrá en mayor espessa; es bien que se siga el designo de Juan Tomas, pero en quanto a la fabrica también conviene que tome consejo de nuestros fabricadores y que aya siempre cerca de Juan Tomas alguna persona a quien el tenga respeto por algunas causas, principalmente que una fuerça de tanta importancia y que se puede decir frontera de Venecia no se a de confiar totalmente de un forastero y veneçiano. Anssi mesmo se a de considerar que en todos los designos que Juan Tomas ha hecho por aca han tenido necesidad de enmienda; es también hombre que en los tiempos mas neçessarios se parte y se va donde se le antoja, sin otra liçençia y ansi lo a hecho agora [...] se ha ydo a veneçia, quiera dios que vuelva, pues que ya no tenemos otro que a el si de allá no se embia alguno [...]», AGS, Estado, Nápoles, 1049-95.
43. «al soldato è necessario saper l'esperientia [...] [la fortificación] non s'impara ne in Bologna, ne in Padua, né in Perugia, né sopra i libri, ma si bene dove si combatte & conoscesi chiaramente che l'uomo d'arme quando abbassa la lancia non ricerca l'arte di Matematica, ne l'archibusciero di Geometria, né il Capitano quando ordina la battaglia per combattere in campagna o sforzare una fortezza cerca i termini di Cosmografia, però la parte dell'offese & le difese si devono considerare alle partid ella militia...» [the soldier must have experience [...] [fortification] is not learnt in Bologna or Padua or Perugia or from books, but it must be argued and clearly understood that when men of arms launch their spears they need not mathematics any more than harquebus gunmen need geometry or captains the terms of cosmography when ordering a charge in battle or the siege of a nearby fortress, but rather all offense and defence should be deemed to stem from the military [...]], *Cose narrate da Gio. Tomasso da Venetia, ingegnere eccellentissimo, già di Carlo Imperatore & or dell'Illustrissimo Dominio, in materia di fortezze, difese & altri avvenimenti, appartenenti a cose della militia*, in Girolamo RUSCELLI, *Precetti della militia moderna, tanto per terra quanto per mare*, Venice, Heredi di Marchiò Sessa, 1578, pp. 39v-42v., quoted by BRUNETTI, 2006, p. 83.
44. The original reads: «el cargo del artillería y de las fabricas», AGS, Estado, Nápoles, 1049-92.
45. The original reads: «Paresçer en respuesta de la relación del maestro de campo Aldana sobre las costas marítimas del Reyno de Nápoles»; «hacer el castillo tan gallardo como yo le dexe designado, por que acabándose es plaça que ninguno que sea soldado holgara de ponerse sobrella [...]»; and «el castillo es ruyn y esta en mala parte y era lo mas peligroso que tenia aquella tierra y por esto le cubri yo con dos cortinas y dos baluartes, es menester hazerse otro. Yo dexe allí platicado y traçado donde y como se devia hacer, porque como esto consista en sitio, no se puede dar a entender por scripto ni por dessigno», AGS, Estado, Nápoles, 1049-94.
46. NIEVAS ROJAS, 2017; NIEVAS ROJAS, 2018.
47. MARTÍNEZ LÓPEZ, 1997, p. 34.
48. CÁMARA MUÑOZ, 2018.
49. ANTONUCCI, 2017; SOROMENHO and LUCAS BRANCO, 2017.
50. As viceroy of Catalonia from 1571 to 1580 he rebuilt the castle at Perpiñán and strengthened the one at Salsas and the watchtowers on the coast, building a new one at Los Alfaques. In Portugal he was entrusted with the defence of the northern part of the kingdom, where he requested the assistance of an engineer. See FERNÁNDEZ CONTI, 1998.
51. Dávila had been with Alba at Mühlberg. In 1550 he was with García de Toledo during the taking of Mahdia and again with Alba at Naples and in the war against Paul IV Carafa and later in the conquest of Portugal. See PANDO FERNÁNDEZ DE PINEDO, 1857; MARTÍNEZ RUIZ, 1968.
52. PORRAS GIL, 2002.
53. VALLADARES, 2008, pp. 160-177.
54. Biblioteca Casanatense (Rome), ms. 2953.
55. BOSCH BALBONA, 2013-2014.
56. The original reads: «solo de hombres digno y noble estado», ALDANA, 1966, sonnet XXX, p. 23.

ABBREVIATIONS

ADMS: Archivo Ducal de Medina Sidonia, Sanlúcar de Barrameda (Cádiz)

AGS: Archivo General de Simancas

RBP: Real Biblioteca de Palacio (Madrid)

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Cardinal Granvelle and his friendship with Fernando de Lannoy (1520-1579)

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Antoine Perrenot (1517-1586) was one of the most important ministers of Charles V and then of his son Philip II¹ [FIG. 1]. Apart from his political perspicacity, he was one of the most important artistic and cultural agents for the House of Austria in the second half of the 16th century. From early on he established relations with artists like architects and engineers, many of whom worked for his lords, such as Sebastian Van Noyen².

We would like to recount here one of the occasions on which he acted as an intermediary for one of his many protégés that stood out for their virtues: Fernando de Lannoy, who in time would become his brother-in-law. The Duke of Boyano was the third son of Charles de Lannoy, prince of Sulmona, and viceroy of Naples until his death in 1527. He was born in Steenokkerzeel in 1520 and had already taken part in the Tunis campaign in 1535. Faithful to the family tradition, in the middle of the 1550s we find him in the imperial army in the Netherlands, fighting under the orders of the Prince of Or-



FIG. 1 ANONYMOUS SPANISH, *Portrait of Cardinal Granvelle*, last quarter of 16th century. Madrid, Patrimonio Nacional, Real Biblioteca de El Escorial.

ange³. In 1555 he had already been mentioned in the correspondence of the bishop of Arras⁴ and in 1556 he held the position of Gentilhombre de boca del Rey [Gentleman of the King's Household]. Philip II wrote to him from Ghent before leaving for Spain in 1557⁵. At that time, he already knew Perrenot, who affirmed that he was fond of him, even before he married his sister, because of his virtue and goodness⁶.

Apart from his facet as a soldier, he began, at least from 1563, to design a map of the region of Burgundy of which he would occasionally inform his brother-in-law. In the first version he included the most important towns, castles and residences and he worked on it in Vennes, a title which he would hold after marrying Perrenot's sister, known as Madame de Vennes⁷.

While still in Brussels with the governess Margaret of Austria, it seems that she proposed him among the candidates for covering a vacant post related with artillery on the death of Glason. Apart from the merits of his ancestors, whose path he was following, Granvelle reminded the king of this map of the Franche-Comté that he had made and of his qualities as a designer and geometer⁸. The summary by the King's secretary is very eloquent about his virtues: «he speaks of the merits and qualities that are present in don hernando de lanoy and of his service, and of his ability in both geometry and smelting and fireworks and other things related to this work and that no other, in his opinion, possesses the qualities that he has, on which he says a lot and in certifying that he has not asked him to write and he begs your grace for all these reasons to consider him very recommended for filling the position»⁹. Shortly afterwards, the king bestowed the position of the Count of Monrevel, who had died, on Fernando de Lannoy¹⁰. Immediately afterwards, the prelate suffered a reverse in his career and he had to leave the Netherlands and withdraw to his native Besançon with the excuse of having to resolve family matters. His brother-in-law would take him a piece of artillery from neighbouring Vennes¹¹. During these months they saw each other several times and Granvelle wrote to the king recommending him the canons designed by Lannoy who he described as a great expert in defensive fortifications, as shown in the town of Gray, as well as having expertise in artillery¹². Also, in 1564 he was at work completing and designing a map of Burgundy and was asked for two copies of it from Spain. Granvelle approached the secretary Gonzalo Pérez to better transmit to the king the worth of his brother-in-law¹³. The king seems to have evaluated him during his summer retreat in the woods of Segovia¹⁴.

The governess of the Netherlands also trusted him and commissioned him to protect Salins, Dole and Gray, fortifying this last city in the Franche-Comté¹⁵.

Apart from his work on defences, he took advantage of the opportunity to reconnoitre the territory and deliberated on the possibilities of building a castle in Granvelle, from where his in-laws would take the name of their lineage¹⁶. In November 1565 Granvelle undertook to send the canons designed by Lannoy to a port on the Spanish Mediterranean, together with two copies of the map of the region of Burgundy¹⁷.

In 1566 Granvelle travelled to Italy on the occasion of the election of the new Pope, residing in Rome with the Spanish ambassador. In spite of the distance, he stayed in contact with his brother-in-law and continued with his progress on the fortification of Gray¹⁸. To satisfy the king, who wanted a printed copy of the map of Burgundy, he turned to another of his old protégés: the painter and engraver from Antwerp Hieronymus Cock

(1518-1570) [FIG. 2]¹⁹. Cock responded in August 1566 to the request that Granvelle's agents in the Netherlands appeared to have made to him announcing that he would engrave the map of Burgundy on a copper plate with extreme care and when he had finished he would deliver to Polites, an old friend of the cardinal from his youth, forty prints on paper and six coloured ones on cloth so that he in turn could send them to Burgundy into the hands of Fernando de Lannoy. Meanwhile he would send another two or three coloured copies to the cardinal in Rome and for six months he would not have the right to print any more. Apart from negotiating the price of his work, he asked for instructions about the explanatory statement of the print in Latin, and if the author Fernando de Lannoy should be mentioned. He sent him other similar prints he had already made so that he could decide as to the format that this one should have and thus be able to start work²⁰. At the beginning of September, the cardinal accepted the financial conditions so that Cock could start work and indicated that it was not necessary to include the

names of the small rivers²¹. The scholar Joaquín Polites, who lived in his family castle in Cantecroix on the outskirts of Antwerp, was charged with supervising the work²². In 1567 the work was well advanced and Fernando de Lannoy wanted to send it to Marco Antonio Patanella, the postmaster in Milan, as it could be of great use for the passage of troops to the Netherlands in the charge of the Duke of Alba, the new governor²³.

In 1568 he corrected his map of Burgundy in a smaller version and sent a manuscript copy to Rome, while waiting to send Philip II another copy printed on parchment through the Duke of Alba, the then governor of the Netherlands²⁴. In August 1568 the cardinal received in Rome the two copies of the map of Burgundy that Cock had sent from Antwerp²⁵. In 1596 he ordered the controller Jean Malpas to put the map of Burgundy, drawn by Fernando de Lannoy, in his bureau in Cantecroix and to pay Cock²⁶. It seems



FIG. 2 JOHAM WIERIX, Portrait of the engraver Hieronymus Cock, in *Pictorum aliquot celebrium Germania inferiores effigies*, 1572, Antwerp. Madrid, Patrimonio Nacional, Real Biblioteca de El Escorial.



FIG. 3 ABRAHAM ORTELIUS, *Theatrum Orbis Terrarum*, 1579. Madrid, Patrimonio Nacional, Biblioteca del Palacio Real de Madrid. Engraving with the map of Burgundy based on the one by Fernando de Lannoy.

that he also kept the rest of the maps of Burgundy that Cock had printed in the nearby city in his residence on the outskirts of Antwerp²⁷. It appears that, when he wanted to market the map, the Duke of Alba opposed granting him this requested privilege because he considered it inopportune to issue such a publication as it could put the safety of the frontier with France at risk. Granvelle was later of the same opinion and recommended the artist to cautiously keep the plates and all the copies that had been printed. Some months later he ordered him to give them to Jean Malpas, controller of the alumes in Antwerp, who was also advised that he should pay Hieronymus Cock 100 gold escudos, and place it all in the properties that Granvelle had in Cantecroix. The engraver would complain about this to Granvelle who told him that he had kept his book with the drawings by Dürer and had in Rome the key to the bureau²⁸. Unfortunately, the king's orders meant that this project remained unfinished²⁹. Although it was never distributed, it would serve as the basis for the one printed by Ortelius as early as 1579 [FIG. 3]³⁰.

At the same time as the matter of the map of Burgundy in 1568, Lannoy continued his correspondence with the cardinal from Gray about family matters, like the education of the nephews, on whom Antoine Perrenot's hopes for the family rested³¹.

In 1568, as we can also observe, he became interested in alchemy and in changing the colour of metals³². In 1569 he began to experiment in this field and reported his experiences to his brother-in-law³³. These experiments undoubtedly interested the cardinal

who from a young age had been interested in the patina on metals in relation to antique sculptures, as revealed for example in his correspondence with the Duke of Villahermosa or the royal sculptor Leone Leoni, another of his protégés. He also toured the family buildings which were being built in several towns in the Franche-Comté³⁴.

In 1569 Lannoy went to visit the Duke of Savoy, Emmanuel Philibert, another great expert in fortifications in Bourg-en-Bresse to see the citadel which he ordered to be built and the fortifications of Rebeylly, near to Geneva to keep back the Huguenots, and he went there in order to talk with the duke and give his advice³⁵.

In 1570 it seems that Fernando de Lannoy fell ill, so that the possessions of Granvelle in the Franche-Comté were considered not to be safe in the fortress in Gray in case his brother-in-law died³⁶. In 1570 Philip II rewarded him with the government of Artois and he went to live in Arras leaving Gray and the Franche-Comté, passing through Antwerp. In his absence the possessions of Granvelle were taken from the castle in Gray³⁷.

In 1571 the couple stayed at Granvelle's palace in Brussels, one of the first examples of Italian Renaissance in the Netherlands³⁸. They had sent all their furniture to Arras, where they would take up residence, so that the cardinal's agents in Brussels helped them by providing household linen and crockery³⁹. They would be magnificently treated in Brussels, with the cardinal paying all expenses, like food, and the washing of the household and table linen, crockery, etc.⁴⁰. In Arras he would devote himself to maintaining and cutting the dykes⁴¹.

In 1571 the Count of Meghem died and Granvelle, at that time Viceroy of Naples, again recommended him to the king as a substitute in charge of the artillery due to his experience in fortifications and other matters like fireworks, often associated with engineers⁴². At that moment the cardinal was leading the defensive policies in the Kingdom of Naples, so that his opinion on the topic would have been taken into account by the king⁴³.

Apart from his abilities as a soldier, Lannoy also shared with Granvelle his love of art and the cardinal would take advantage of his agents in Brussels to get the painter Christian van de Perre also known as Crispin van den Broeck (1523-h. 1591), another of his protégés, to paint a canvas on *La Trinidad*⁴⁴ for his brother-in-law. The support for this painting of excellent quality needed special preparation and was not sent to Burgundy until 1566 duly rolled up and protected⁴⁵. In 1571, after the victory of Lepanto, which he referred to as a miracle, he requested an engraving of it so that it could be transferred to a large canvas to perpetuate the fame of the battle⁴⁶. It should not be forgotten that the cardinal handed the standard blessed by the Pope to John of Austria and that he would have a commemorative medal made. In 1574 his sister gave jewellery to the soldiers⁴⁷. She also requested a cup with the arms of the family heritage to send to her husband⁴⁸.

They also shared a common interest for gardens and he would be one of the recipients of the seeds that the cardinal regularly sent to the Netherlands from Italy⁴⁹. In 1571 he received a new shipment which he planted in the new garden at Arras⁵⁰.

They would also frequently exchange luxurious materials like a canopy that Margarita Perrenot gave her brother in 1568⁵¹. In exchange she asked for agate paternosters from Rome and medicaments, medicine that she needed to treat her heart disease⁵². The car-

dinal was very enthusiastic about new medicines and transmitted his sister's request to his agents in Brussels and his apothecary Jeronimo, responsible for his palace garden in Brussels, was charged with providing her with this medicinal liqueur⁵³. In 1572 Fernando was the one who was ill and Granvelle's apothecary provided the medicines that the cardinal ordered from Naples⁵⁴. In the following years there would be frequent references to his state of health which became more and more delicate⁵⁵. In 1578 he even went to Paris to be treated by the doctors of the French king and Duke of Guisa⁵⁶.

Fernando de Lannoy died in the castle of Visenay, near Dole on 4th October 1579. His remains were deposited in the church of the Dominicans in Poligny, but the cardinal would have liked them to have been transferred to the family chapel of the Carmelites in Besançon or the privileged altar in Saint-Laurent at Ornans, where his grandparents rested, although he needed the consent of the prince of Sulmona, his nephew and heir⁵⁷. Meanwhile, and given that he was in Madrid, he sent a request to the king on 4th December asking for a widow's pension for his sister who had used up almost all her dowry and jewels. The king granted it as early as 1580⁵⁸. His widow, Margaret Perrenot, made her will in Besançon in February 1587, a year after the death in Madrid of her brother, cardinal Granvelle.

As can be seen, the figure of Fernando de Lannoy exemplifies how cardinal Granvelle also acted as an agent introducing to the king not only artists but also engineers who were in turn his «protégés», in this case with the family ties reinforcing their importance.

DOCUMENTARY APPENDIX

Granvelle to Philip II (m.p.), Brussels, 21st January 1564, Archivo General de Simancas (AGS), *Estado*, leg. 526, f. 4. Draft in Bibliothèque d'Etude et Conservation de Besançon (BMB), Granvelle, X, ff. 16v y 17

A vacancy had occurred because of the death of Monseigneur de Glajon which Brederode, Reux and Montigni were asking for. It was something related to war and he believed that there was no hurry because as there was no war at that moment it would be a useless expense. He proposed his brother-in-law Fernando de Lannoy, the man who designed the map of the Franche-Comté, giving details of his services and those of his ancestors [*and Madame has wanted, as your majesty will see, that the name of Fernando de Lanoy be added, and I promise your majesty that she did it on her own behalf, although the truth is that I had determined to propose him in my letter to your majesty remembering his qualities, and that among those who ask for it or in all those that there are in these states there is no man more suitable, and his father and brother have served your family something your majesty will have heard, and he has been lieutenant and like a captain general of the light cavalry in Italy and Germany, and coronel of the infantry and has been in all the wars which have been waged since Tunis. He is about 40 and a great designer and geometer, and all his life has made a profession of what was necessary to reconnoitre terrains, take measurements invent devices and machines and all types of equipment, he himself has smelted artillery with his measurements and in these things and in fireworks he spends his leisure time, and I do not believe that any of these states that I have mentioned that he lacks anything that I have mentioned nor that in all things he has shown himself to be as brave as any man/ I beg your majesty, as humbly as I am able, that in your majesty's own time you may remember him, even more so as Madame has been so willing to point him out to your majesty and I can certify that the man up until today has neither directly nor indirectly made a request as far as I know not even to me to ask for the said position...*].

In the original: «*madama ha querido que se añadiesse como v[uestra]. ma[jesta].d vera, don fernando de lanoy, y prometo a v[uestra]. ma[jesta].d que lo ha hecho su alt[ez]a de suya, aunque a la verdad yo havia determinado de proponerle en mi carta a v[uestra]. ma[jesta].d acordandome de sus qualidades, y que entre estos que lo piden ny en quantos hay en estos estados no hay hombre mas a proposito, y han servido los suyos padre y hermano lo que v[uestra]. ma[jesta].d havra entendido, y sido el teniente y como capitan general de la cavalleria ligera en Italia y alemaña, y coronel de infanteria y hallandose en quantas guerras se han hecho desde tunez. hombre que llega a los quarenta años gran diseñador y geometra, y que toda su vida ha hecho profession de lo que es menester para reconoscer tierras medir, hazer ingenios y machinas, y todo genero de pertrechos, fundido el mismo artilleria con sus medidas y en estas cosas y en fuegos artificiales passa su tiempo quando ocioso, ny creo que havra alguno destos estados que digo que le falta cosa alguna de quantas yo digo, ny que en todas cosas no se aya [BMB: haya] mostrado tan valiente como qualquiera/ yo suplico quan humilm.te puedo a v[uestra]. m[a]jesta].d que en su tiempo sea serviso tener memoria del, y tanto mas anteponiendole madama con tanta voluntad a v[uestra]. ma[jesta].d, a la qual yo certifico que el hombre el dia de oy directamente ny indirectamente no ha hecho oficio que yo sepa ny aun comigo para pedir el d[ic]ho cargo...».*

Granvelle to Philip II, in his own hand, Bauldoncourt, 8th October 1564, AGS, *Estado*, leg. 526, f. 21

[«Fernando de Lannoy is often with me and coming from Besançon I have passed twice through Gray where I have seen what he is having done in that land in the service of your majesty and truly he is a man of warfare and understands fortifications very well, and he is greatly at ease as he is a designer and designs and draws everything very well in his own hand, I remind your majesty about him for when it is appropriate to designate the position for the artillery in Flanders, as days ago I begged your majesty, as he was born in those lands and is a person who knows how to serve, it is true that I am in the same mind as then and it is important to explain the differences that there are between the position in the artillery and the finances before filling it and that it is not a bad idea to postpone the appointment until there is a war, or your majesty comes, for the reasons that I presented before. He has trained a master who he ordered two years ago to make some very fine and well-made short grey iron canons to place in the batteries in the bastions of Gray, which are very good and advantageous for defence, because as they are short and light, they are less cumbersome, so much so that they can be carried by four men from one place to another even if they are not on horseback, and they shoot their iron ball weighing 32 pounds more than two thousand six hundred paces, and the piece does not cost 30 escudos I am telling your majesty about them in case it is necessary to have them for the Spanish frontiers on the coast or the forces in Africa, they could easily be sent from Gray by the Saône to Aigues Mortes and from there to Barcelona, he has ordered another piece now also made of beaten iron made of parts that could be carried on three mules and could serve where the artillery cannot go with carriages, it shoots iron balls weighing eight pounds and I myself have seen it fire three times further than two thousand paces, and Fernando has measured all the country of Burgundy and is making a design to make a most excellent map»].

In the original: «Don fernando de lanoy esta muchas vezes connigo y viniendo yo de Besançon aqui he passado dos vezes por grai donde he visto lo que haze labrar en aquella tierra por servitio de v[uestra]. ma[jesta].d y verdaderamente el es hombre de guerra y que entiende muy bien lo de las fortificaciones, y tiene gran comodidad que como es desiñador lo desiña y traça todo muy bien de su mano acuerdole a v[uestra]. m[ajesta].d para quando sera servida proveer el cargo de la Artilleria de flandes, como dias ha lo suplique a v. m.d siendo el nascido de aquellas tierras y persona que sabra servir, es verdad que estoi en lo mesmo que entonçes es bien aclarar las differentias que ay entre aquel cargo de lartilleria y las finanças antes de proveerle, y que no sera malo differir la provision hasta que aya ocasion de guerra, o que v[uestra]. m[ajesta].d venga, por las razones que entonçes apunte. El ha industriado aqui un maestro por quien mando hazer dos años ha unos cañones cortos fundidos de yerro colado muy lindos y bien hechos para poner en las batterias de los beluartes de gray, que son muy buenos y provechosos para defensas, que por ser cortos y ligeros, son menos embaraçosos, y tanto que los puede llevar quatro hombres de lugar a otro aunque no sean encavalgados, y tiran con no mas de tres libras de polvora fina su pelota de yerro de 32 libras mas de dos mil y seicientos passos, y no cuesta la pieça a 30 escudos, aviso dello a v[uestra]. m[ajesta].d por si para las fronteras despaña azia a la mar o para las fuerças de Aphrica fuesse menester haver dellas, que se podrá nembiar con gran façilidad desde Gray por la Sona hasta a aygues mortes y de alli a Barçelona, otra pieça ha mandado agora hazer de nuevo de yerro battido hecha de pedaços que se podra llevar sobre tres azemilas y podria servir donde la artilleria no puede yr con carro, que tira pelota de ocho libras de yerro y la he visto yo mesmo tirar tres vezes a mas de dos mil passos, y ha el dho don fernando medido todo este contado de borgoña y valo poniendo en desiño por hazer una carta muy buena».

Extracts letters from Granvelle to Philip II on 8th, 12th and 15th October 1564, AGS, *Estado leg.* 526, f. 19

In the 3rd folio, 1v on Lannoy's fortifications and artillery pieces *«He says that he went by Gray and saw what Fernando de Lannoy has designed and built there in the fortifications with great ingenuity and care, and he praised him a lot for this as he has done many other times and that he would be very suitable for the captain of the artillery in Flanders and he begs your majesty to remember him when the position has to be filled although it is not his opinion that it be filled until the finances are studied and settled and signal the importance of this position, and until there is a war.*

He said that the invention that he has made of certain very light iron artillery pieces could be for the navies and forces in Africa, because they are light and not very cumbersome and can be pulled by four men even though they are not on horseback, and with no more than three pounds of fine gunpowder they shoot an iron ball of 32 pounds more than two thousand six hundred paces, and each piece costs no more than 30 escudos, and they could be brought easily from Gray by the Saône to Aigues Mortes and from there to Barcelona.

That he has made another piece of beaten iron made in parts that could be carried on three mules and taken up to where the artillery cannot go with a carriage, that shoots an iron ball weighing eight pounds and he has seen it shoot two or three times to more than two thousand paces [response in margin: send three or four of these]

That this fernando has measured all the country of Burgundy and is putting it into a design to make a very good map [response in margin: that if he has made this map send two copies of it]».

In the original: *En 3.er pliego, 1v, sobre fortificaciones de Lannoy y piezas de artillería «Dize que passo por Gray y vio lo que don hernando de lanoy ally ha traçado y haze en la fortificaçion con gran ingenio y cuydado, y alabale mucho desto como ya otras vezes lo ha hecho y que seria muy a proposito para capitan de artilleria de flandes y supp[li].ca a v[uestra]. m[ajesta].d se acuerde del quando lo huviere de proveer aunque no es de paresçer que v[uestra]. m[ajesta].d lo provea hasta que se averigüe y assiente en las finanças las preeminencias deste cargo, y hasta que vaya ocasion de guerra*

Dize la invençion que ha hecho de çiertas pieças de artilleria de hierro muy ligeras que podrian para en las marinas y fuerças de africa, porque son poco embaraçosas y ligeras y las puedan tirar quatro hombre aunque no estén encavalgadas, y con no mas de tres libras de polvora fina tira una pelota de hierro de XXXII libras mas de dos mill y seisçientos passos, y no cuesta cada pieça mas de XXX escudos, que se podrian traer facilmente desde Gray por la sona hasta aguas muertas y de ally a barçelona

Que ha hecho hazer otra pieça de hierro batido hecha de pedaços que se podria llevar sobre tres azemilas y subirla donde no puede lartilleria yr con carro, que tira pelota de ocho libras de hierro y la ha visto tirar dos o tres vezes a mas de dos millpassos [respuesta marginal: embie tres o quatro destas]

Que ha medido este don fernando todo el condado de Borgoña y lo va poniendo en desiño por hazer una carta muy buena [respuesta marginal: que si huviere hecho esta carta embie dos copias della]».

Hieronimus Cock to Granvelle, August 1566 1566, BMB, XXIII, f. 82

[To Granvelle's hand: *«the painter Cock in August 1566»*

«Monseigneur RMons.r le R.me

After my first humble recommendations having understood the reply that Monseigneur R, has written to me about the Map of Burgundy about which I have written to Monseigneur R. I understand the desire of Monseigneur who has decided that I should engrave the said map on copper and do it with great precision and care in everything at my expense and profit and immediately after the map

is finished. I should send or deliver the prints of the same to M. Polites to send them to Burgundy to M. Fernando de Lannoy forty white copies as they come from the press and also six coloured ones on canvas And also two other coloured copies for my lord to send from here to Rome. On the condition that I shall not sell or distribute these same maps to anyone else for six months after the delivery of the first ones, this is the will of Monseigneur, but before anything else I must know from Monseigneur when and how much he will pay in full for the prints before beginning the work. Monseigneur will be pleased to know that I am ready to fully satisfy Monseigneur's desire for this same map which I will begin and finish, God willing, as soon as I receive Monseigneur's reply, and once the said forty white maps and six coloured ones for Burgundy are finished and delivered to M. Polites together with two or three coloured ones for Monseigneur's pleasure I will be content if my lord pays me fifteen gold escudos as I do not desire more from my lord and I will also leave the said maps without distributing them to anyone else or making a profit from them during six months after their delivery as Monseigneur has requested. But I would like that for the further embellishment of the map Monseigneur would order the text or statement in Latin about the said map to the effect that there is something to see and read in it to put it into a fine box with also in Latin apart from the text I should include a dedication to Fernando de Lannoy with all his titles/ I would also like to hear if Monseigneur desires me to put on the said map the name of the said Fernando de Lannoy as the author, in his honour. As I need to know all these things before beginning the same as ordered to be able to coordinate it and print it at the same time as otherwise the said map will be plain and not decorated. But having all this I would like to have the greater honour and please Monseigneur more than for the advantage that it could offer to send with it two or three texts that I put on some maps like of Germany, Spain and Savoy so that Monseigneur can order another suitable one to serve for the map of Burgundy without which the map would be dull. And moreover, if it pleases Monseigneur to add some excellent titles to the said map in capital letters Monseigneur could add them. In conclusion I pray to the Creator to keep Monseigneur's noble person in his charge to help him prosper in all his noble desires as I would wish.

Entirely your humble servant/Hieronymus Cock»].

In the original: Mano propia de Granvela: «le peintre Cock en aoust 1566»

«Mons.r Mons.r le R.me

Après mes humbles Recommandations premises ayant entendu la Responce de mons.r R.me escripte touchant la Carte de Bourgoingue de la quelle ay escript a mons.r R.me/ Je entens que le desier de mons.r est et at Resolu que Je entailleroye la d[icte] Carte en quivre et que Je feroye la bien nettement en diligence en toute maniere et ce tout a ma mayson et a mes despens et prouffit et que tant seullement incontinent que la d.e Carte será achevee Je consigneroye ou delivreroye des mesmes impressions a Mons.r Polites pour les mesmes envoyer en bourgogne a Mons.r don fernando de lanoye quarante exemplaires blanches ainsyn quils viennent de la presse et oultre Icelles aultres six bien coleures et mis sur toile/ Et plus encoires deux aultres coleures pour mons.r pour envoyer dicy a Rome

A Condition que ne vendroye ou distribueroye les mesmes Cartes a nulle aultre personne en six mois apres le delivrement des premieres, mais en oultre est la voulente de Mons.r que au p[ar]avant mande scavoir a Mons que chose et combien que monsr debueroit payer de cecy entierement des sus d. Impressions devant que d mectre la main en besoingne.

Sy plaira scavoir a Mons.r R.me co[m]ment que Je suis prest daccomplir icy entierement le desier de Mons.r pour la mesme Carte Incontinent ayant eu la Responce de Mons.r commencher et achever si dieu me garde Et estant acheve alors les d. quarante cartes blanches et les six coleures pour bourgoigne delivres en mains de Mons.r Polites ensemble aussy deux ou troys coleures pour Mons.r R.me a son contentement et Je me contenteray que Mons.r pour Icelles Sil lui me presente quins escus dor Car Je ne desire pas le plus de Mons.r, et p. ainsyn losseray les d[ictes]/ [f. 82v:] Cartes Reposer sans les distribuer a quelcun aultre ou en faire prouffit les d. terme de six mois apres la delivrance comme

Mons.^r R.^{me} a Requis/ Mais Je desireroie bien de Mons.^r, que Mons.^r pour plus grand enrichement de la d[icte] Carte voudroit ordonner en lattin l'escript ou declaration de la d[icte].e Carte as celle fin quil y aye quelcque chose a veoir et lisre des ans pour le mesme mettre en ung brave compartiment avecq ce aussi en lattin appart l'escripture comme Je deburoie mectre la dedication a Mons.^r don fernando de lannoy avecq tout son tiltre/ Aussy que Mons.^r nefacescavoir si cest la voulente ou plaiser de Mons.^r que mectray dedans la d[icte].e carte le nom du d. s.^r fernando de lannoye comme auteur dicelle a son honneur, Car Il me convient avoir et scavoir toutes ces choses au p[ar]avant de comencher pour le mesme besoingne selon ceordonner et p. ainsyn achever Icelle dung train pour le pouvoir ainsyn ensemble emprimer Car autrement seroit la d[icte].e Carte huyde et point ornee/ Mais ayant tout cecy Je veulx en outre garder en cecy honneur plus pour faire plaisir a Mons.^r que pour prouffit que en pourroit venier et p. ainsyn envoyer avecq ceste deux ou troys escripts que Je mecte en alcunes cartes A scavoir dallamaigne, Espagne et Savoye ad celle fin que Mons.^r puisse ordonner ung aultre servante sur ceste Carte de Bourgoigne sans la quelle la Carte seroit mortasse, Et plus sil plaisoit a Mons.^r de mectre quelcque tiltre exquis a la d[icte].e Carte en l[ett]res Capitales mons.^r Il le pourra adiuster Atant Mons.^r faisant fin prie au Createur quil soit garde de la noble p[er]sonne de mongs.^r et di celle prosperer en toutes nobles desiers comme desire

Lentierement v[ot]re humble serviteur/ hierosme Cock».

Note from Cardinal Granvelle to Hieronymus Cock, Rome, 3rd September 1566, AGS, Secretarías Provinciales (SP), Flandes, libro 1416, ff. 16v and 17r:

«Seigneur Cock. I have received your letters of 2nd of last month, and seen the Plan that you have sent me of the map, and it seems fine to me as it is, as well as having on the right side the coat of arms of the Count of Burgundy and on the left those of Fernando enhanced, and it will be enough for you to add below these a dedication of this sort:

Illustrissimo Don Fernando de lannoy Duci Boyane, Comiti Rupis et Castri novi Domino de Vennes, Gubernatore Grayacensi, cuius industriae hoc opus debetur. Hieronimus Cock dedicavit.

In the cartouche where you will put *lector* salutem, write what you desire, on the advice of Monsieur Polites, without making further mention of Monsieur Fernando. With regard to the names of the small streams, I cannot tell you and they should be left thus so that everyone can write them as they see fit. I agree with the rest of the conditions and I will be very happy to pay the sum you mention with the conditions written in your letters...».

In the original: «Seigneur Cock. J'ay receu vos l[ett]res du ii.e du mois passe, et veu le Project que vous m'envoyez de la charte q me samble bien ainsi, comme aussi faict Il que au costel droict soyent les armes du conté de Bourg[og].ne, et au gauche celles du seig.^r don fernande enrichies, et souffrira que dessous ses d[icte]s armes vous luy faictes une dedication en ceste sorte:

Illustrissimo Don Fernando de lannoy Duci Boyane, Comiti Rupis et Castri novi Domino de Vennes, Gubernatore Grayacensi, cuius industriae hoc opus debetur. Hieronimus Cock dedicavit.

En en la table d'attente ou scartuccio ou vous mectez *lector* salutem, escripvez y ce que vous voudrez, per ladvys de Mons.^r Polytes, sans faire aultre mention du d[icte] s.^r don fernande/ Quant aux noms des petites Rivières, Je ne les vous scavroye donner, et les faultra laisser ainsy, chascun les escriira apres a sa fantasie, Le reste des conditions me plaisent, et je payeray fort volentiers la somme que vous dictes avec les conditions contenues en vos l[ett]res...».

Granvelle to Mr. Cock painter in Antwerp, Rome, 13th August 1568

[«Monsieur Cock, I have not replied earlier to your letters with which I received the two copies of the map of Bourgogne, because I wanted to send a copy to Monsieur Fernando beforehand so that he

could see if he wanted to correct anything as you wrote to me and I see that he has done so, having sent me the said copy, which arrived yesterday and is accompanying this letter and asks that you see what he has changed. To do things well, you should send him a dozen copies glued to canvas, and a couple painted, and taken to the controller de Malpas in a crate. Afterwards, you may, at your convenience and for your profit, publish the said map and he has written to me some particularities in praise of the region and he would like that the texts be slightly modified, which can be done in the blank spaces on the maps. I am sending it to the provost of Ayre Morillon who can get it to you, And I desire that you also send me one corrected copy, which I will get glued here, so that it is easier to transport, but that you will have painted and I will order that you are paid what you have agreed for the printing of the said letter. Praying to the creator for this purpose... From Rome 13th August 1568»].

In the original: «Seg.r Cock, Je n'ay pas plustot respondu a vos l[et]res, avec les quelles J'ay receu les deux exemplaires de la carte de Bourg[og].ne, pource/ [f. 137v] que prealablement J'ay voulu envoyer ung exemplaire au Seig.r don fernande, afin quil vist s'il y vouloit corriyer quelque chose, co[m]me vous m'escrivies, et Je voys qu'aussi Il a faict, m'ayant renvoye le d[ict] exemplaire, qu'arriva hier et vad avec ceste/ et dict que emendant ce que vous verez quil y a changé/ et luy envoyant une xii.ne d'exemplaires/ quil será bien, que luy faictes tenir coles sur toille, et une couple paincts, et les donnat pour les luy faire tenir, pour conduicte, a mons.r le contrealleur de Malpas/ en une casse/ Vous pourez apres avec v[ôt]re commodité et pour v[ôt]re gaing, publier la d[icte] carte / et Il m'a escript aulcunes particularites de la lonange du pays/ quil veuldroit que lon touchast sommanement aux escripts, que se fairont aux blancs laissez aux cartes / Je l'envoye a mons.r le prevost d'ayre morillon, qui le vous pourra communiquer/ Et desire que vous m'envoyez aussi ung seul exemplaire corrige/ le quel Je fairay bien coler icy, afin quil se porte plus ayseement, mais la vous le fairesz paindre/ et Je ordonneray, que lon compte avec vous, pour vous faire donner ce que vous avez convenu pour l'Impression de la d[icte] carte/ Priant pour fin de ceste le createur ...De Rome ce xiii.e d'aoust 1568».

Granvelle to Philip II, Naples, 12th April 1572, AGS, *Estado*, leg.1061, f. 33

[«I have heard about the death of the count of Meghem which I regret and so much more so seeing in those states [the Netherlands] there are so few of the old men capable of bearing arms, and many are lacking everywhere, that I hardly know any, on this occasion it seemed to me that I should remind Your Majesty that before assigning to the count of Meghem the responsibility for the artillery I wrote to Your Majesty about my brother-in-law count Fernando de Lanoy my brother-in-law to whom Your Majesty decided afterwards to give the post of governor of Artois, if I am not mistaken I think that he would be the most suitable for this post rather than any other man in the states, having made a great professional career all his life of artillery and fortifications, having found many inventions to make superior pieces and fireworks, as well as when in the field he used to draw the barracks and the place where the fighting was occurring in his own hand, as he is well skilled in this ability as in the others, and it is a post which has always been given to persons of quality although they have had governments like the one that the late count of Meghem had, I remind Your Majesty about my opinion in case it would seem to be advantage for his service, adding that it would be a great mercy for me and more for Your Majesty to do this for him as I love him for his virtue and especially for the devotion with which I see that he serves Your Majesty and for the services that he gave in the time of the emperor I am certain that Your Majesty will have heard about them some time ago...»].

In the original: «He entendido el fallecimiento del Conde de Meghem de que me ha pessado y tanto mas viendo yo tan pocos en aquellos estados [Países Bajos] de los viejos aptos a menear las armas, y faltan tantos despues que de allaparti, que ya casi no conozco ninguno, con esta occassion me ha

parecido dever acordar a v[uestra]. M[ajesta].d lo que antes que proveyese al dicho conde de Meghem el cargo de lartilleria screvi a v[uestra]. M[ajesta].d por el Conde Don Fernando de lanoy mi cuñado a quien v[uestra]. M[ajesta].d ha sido servido dar despues el govierno de Artois, si no me engaño yo pienso q[ue] este seria el mas apto para tener este cargo que otro qualquier que se halla en los estados, haviendo hecho muy gran profession toda la vida de lo de lartilleria y de fortificaçiones, haviendo hallado muchas invençiones para hazer pieças aventajadas y fuegos artificiales, demas que hallandose en los campos solia designar los alojamientos, y el sitio de las tierras que se combatian de su propia mano, teniendo demas de las otras tambien esta abilidad, y es cargo que siempre se ha dado a personas de qualidad aunque hayan tenido gobiernos como tenia el dicho Conde de Meghem muerto, acuerdolo esto de mio a v[uestra]. M[ajesta].d por si le paresciere convenir a su servi[ci]o, con añadir q sera para mi mucha m[e]r[ce]d, y mas que propia toda la que v[uestra]. M[ajesta].d sera servida hazerle en esto por lo mucho que por su virtud le quiero, y specialmente por la afficion con que veo sirve a v[uestra]. M[ajesta].d, y quales han sido sus servicios al tiempo del emp[erad].or tengo por çierto q v[uestra]. M[ajesta].d lo havra mucho ha entendido...».

NOTES

1. VAN DURME, 1957.
2. DE JONGE, 2000; DE JONGE and MARTENS (in print).
3. VAN PRINSTERER, 1835, I, p. 23.
4. Fernando de Lannoy to the bishop of Arras, from the battlefield, 8th July 1555, Biblioteca del Palacio Real de Madrid (BP), Manuscrito II/2295, s.f.
5. Philip II to Fernando de Lannoy, Ghent, 10th March 1557, BMB, XXXVII, f. 23. The Count of Egmont chooses him as his lieutenant of light cavalry.
6. Granvelle to St. Mauris (Bellefontaine), Rome, 5th March 1578, BMB, LXXXIII, f. 117. Happy about Fernando's recovery [I consider him one of the best friends I have in the world]. In the original: «*Je le tiens pour l'un des meilleurs amis que j'aye en le monde*».
7. Fernando de Lannoy to a Granvelle, Vennes, 18th November 1563?, BP, II/2299, f. 159v: [Monseigneur I am sending you the first map that I have made of the county of Burgundy containing [?] the most important towns and villages and castles [?] and gentlemen's houses as seems necessary as if I put everything on it it would make the painting confusing... for some are the biggest... I have kept the model ...I ask you to keep it. For your love of me]. In the original: «*Mons.^r Je vous envoie la premiere Carte que Jay fait du compte de borogogne y contencet? [contenent?]/ les villes et villetes et che [chateaux?] de plus dymportance et mayson de gentishomes selon que on voyt necessary car de y mettre tout ny aroit que confusion a la paynture y le et compasse par leurs borgognones e cote que il y at les unes plus grandes toutes Je les ay fayt conghales Jay retenu le patron Je vous prie mon [seigneur]le gharder? Pour lamour de moy...*».
8. Granvelle to Philip II (holograph), Brussels 21st January 1564, AGS, *Estado*, leg. 526, f. 4. Draft in BMB, Granvelle, X, ff. 16v and 17.
9. Ibidem, f. 3. In the original: «*dize los meritos y calidades que concurren en don hernando de lanoy y lo que ha servido, y la abilidad que tiene assy en geometria como en fundiciones y fuegos artificiales y otras cosas tocantes a este exercicio y que ciertamente en ninguno a su paresçer concurren las partes que en el, en lo qual se alarga mucho y en çertificar que el no le ha pedido que lo scriva y supplica a v. m[erced] por todas estas causas le tenga por muy encomendado en la provisión del cargo*».
10. Note from Philip II to Granvelle, Monzón, 23rd January 1564, AGS, *Estado*, leg. 525, f. 30. Original in BMB, X, f. 25v-26. Note from Granvelle to Philip II, Brussels 25th February 1564, f. 107 r and v: he thanks him for assigning the offices of the Count of Monrueal to Fernando de Lannoy [I will advise the said Fernando]. In the original: «*al dicho don fernando avisare*».
11. Fernando de Lannoy to Granvelle, Vennes, 19th March 1564, BMB, X, f. 197 and 12th August 1564, XIII, f. 275 r and v.
12. Granvelle to Philip II (holograph), Bauldoncourt, 8th October 1564, AGS, *Estado*, leg. 526, f. 21.
13. Gonzalo Pérez to Granvelle, Madrid, 3rd February 1565, BMB, XVI, f. 161v: [to Fernando de Lanoy I kiss his hands and am his very sincere servant]. In the original: «*al s.^r don hernando de Lanoy beso las manos y le soy muy çierto servidor*». Perhaps Lannoy helped with some weapons made by a French man that Pérez wanted.
14. Note from Philip II to Granvelle, El Bosque, 22nd October 1565, AGS, *Estado*, leg. 527, f. 94. 2^o pliego, f.2v. On canons, letters from Lannoy.
15. Bonnet Jacquemet to Granvelle, Salins, 29th April 1565, BMB, XVII, f. 276. Note from Granvelle to Margarita de Parma, Besançon, 28th May 1565, XVIII, f. 118.
16. Chantonay to Granvelle, Viena, 26th September 1565, BMB, XX, f. 86v [I very humbly thank your Illustrious Lordship (...) for the visit that he made with Fernando to the place to build a castle at Grandvelle. I am waiting to hear what convenience of water has been found and then the type of building that your Illustrious Lordship would consider suitable]. In the original: «*Je mercie tres humblement a v[ot]re Seignerie Ill.^{me} (...) la visitation quelle a fait avec le S.^r don fernande du lieu pour faire ung chasteau a Grandvelle, J'attens de scavoir quelle comodite deau lon avra treuve et puis la façon du bastiment que semblera a v[ot]re seigneurie Ill.^{me} estre convenable*».
17. Granvelle to Philip II, Besançon, 20th November 1565, AGS, *Estado*, leg. 527, f. 90 (3, 1v and 2r). Note in BMB, XXI, ff. 89, summary of the letter Granvelle to Philip II, 20th November 1565: [That he should try to send to Barcelona or Valencia two or three of those half canons and thinks that they will be very suitable for some frontiers. That he should also send the map that Fernando de Lanoy has made of that state and another that he is working on]. In the original: «*Que procurara e embiar a Bar[celo]na o a València dos o tres de aquellos m[edi].os cañones, y que cree que serian muy a proposito para proveer algunas fronteras. Que embiara tambien la carta que ha hecho don Her.do de Lanoy de aquel estado y lo mismo hara en acabando otra que tiene entre manos*». Philip II wrote: [he should get it done so and advise us here where and how they will come so that they are paid for]. In the original: «*que asi lo haga hazer y avisar aca adonde y como vendran para que se cobren/ idem*».
18. Granvelle to Philip II, Milan, 13th January 1566, POULLET and PIOT, 1877, I, p. 83, 30.
19. To put this artist into context VAN GRIEKENET, LUIJTEN, VAN DER STOCK, 2013; WOUK, 2015, pp. 31-61.
20. Hieronymus Cock to Granvelle, 2nd August 1566, BMB, XXIII, f. 82. In the f. 83, several prints: Savoy; f. 84: battle of 13th July 1558, Grevelinges [German or Flemish]; f. 85: Spain; f. 86, Germany. VAN DER STOCK, 2013, p. 19.
21. Granvelle to Hieronymus Cock, Rome, 3rd September 1566, AGS, Secretarías Provinciales (SP), Flandes, libro 1416, f. 17. [With regard to the names of the small streams, I cannot tell you and they should be left thus so that everyone can write them as they see fit. I agree with the rest of the conditions and I will be very happy to pay the sum you mention with the conditions written in your letters...]. In the original: «*Quant aux noms des petites Rivières, Je ne les vous scavroye donner, et les faudra laisser ainsy, chascun les escrira apres a sa fantasie, Le reste des conditions me plaisent, et je payeray fort voutentiers la somme que vous dictes avec les conditions contenues en vos l[ett]res...*».

22. Granvelle to Polites, Rome, 3rd September 1566, AGS, SP, libro 1416, f. 18v: [I am replying to Hyeronimus Cock so that he works on the map of Burgundy. He can send you my letters and I would ask you to request them from him]. In the original: «*Je reponds a hieronimus Cock, afin quil besoine en la carte de bourgoigne, Il vous porra communiquer mes l[ett]res et Je vous prie le solliciter*».
23. Fernando de Lannoy to Granvelle, Gray, 19th April 1567, BMB, XXIV, f. 247: [With regard to the map of Burgundy I am ready to put it together on the model I have to send it to Milan to the postmaster and it is very timely due to the passage of Your Majesty's army and the surrounding neighbours]. In the original: «*Quant a la carta de borghogne Je suis apres le asserver une faite sur le patron que Jay et la envoyer a mylla[n] au m[ait]re de postes et vie[n]t bien apoint a cause de se passage pour/ [f. 247v:] larmee de Sa mag.te et veyore alentour les voysins*». PARKER, 2004, p. 73. L. FEBVRE, 1912.
24. Fernando de Lannoy to Granvelle, Besançon, 11th June 1568, Bibliothèque Royale de Bruselas (BRB), ms. 16096-100, f. 63v: [Monseigneur as my little map of Burgundy is finished and corrected with the frontier passes I am sending Your Illustrious Lordship one drawn by me I beg you to accept it with pleasure I am making a beautiful one on parchment for His Majesty and another for the duke of Alba asking his Excellency [the duke of Alba] to send one to His Majesty on my behalf]. In the original: «*Mons.r coment May mis au net et bien corrige ma petite Carte de borghoine avecq les passages des frontieres Jen envoie a v. s. Ill. me une faite de ma main Je le supplie laccetter de bonne part Jen fay[s] une belle en perchemin pour sa mag.te et une pour le duc dalve luy suppliant a se Ex[celen]ce [duque de Alba] lenvoyer lune a sa mag[es].te de mapart*».
25. Granvelle to Mr. Cock painter in Antwerp, Rome, 13th August 1568, AGS, SP, L 1416, f. 137 r and v. See Documentary appendix.
26. Granvelle to Jean Malpas, Rome, 4th May 1569, AGS, SP, L 1416, f. 201r: [I have composed a map of the county of Burgundy that my brother-in-law, Fernando de Lannoy had made, and for the sake of accuracy it should not be published, and to tell you the truth, all things considered I agree and I am writing to Cock in a letter that you will find enclosed that he should deliver to you the templates and all that he has printed from them, closed and sealed, so that you can put them in one of the cupboards in my room at Cantecroys in the tower, and give to Cock from the first revenues that you come by, one hundred gold écus that will be reimbursed when you bring these things back with the receipt from Cock]. In the original: «*J'avoie faict mettre en forme une carte du Comté de Bourg.ne que mons.r mon beaufreire don fernande de Lannoy avoit faict, et pour bon respect Il n'a pas semblé convenir qu'elle se publie, et pour vous dire la verité, tout considéré Je suis bien aussi de cest advis, et J'escrips par la l[ett]re que vad icy joincte a Cock, quil vous mette en main les formes, et tout ce qu'il en ha imprimé, clos et sellé, que vous pourrez mettre en l'ung des armoires de ma chambre a Cantecroys en la tour/ et deliverez au d[ict] Cock des premiers deniers que vous viendront en main, cent escus d'or les quels vous seront passes en compte rappourtant ceste, et le recepissee deu d[ict] Cock*».
27. Granvelle to Jean Malpas, Rome, 14th July 1569, AGS, SP, L 1416, f. 211v: [And also [I thank you] for what you have done with Cock to learn from him the instructions for the map of Burgundy and the copies that he has printed of them, that you would do well to take to Chantecroic according to what you have written to me, and following what I have also written to you]. In the original: «*et aussi [je vousmercie] de ce que vous au d faict avec Cock, pour retirer de luy les formes de la carte de Bourg.ne, et les exemplaires qu'il en avoit imprimé, les quels vous ferez fort bien de mettre a Cantecroic conforme a ce que vous m'escripvez, et suivant ce que je vous en avoie aussi escript*».
28. BRB, Ms, boîte Pinchart II/1200-19.
29. At the same time this letter has been dealt with VAN DER STOCK (in print).
30. DENUCE, 1912, I, pp.124–25, n° 5; RIGGS, 1971, p. 394, n° a-47.
31. Fernando de Lannoy to Granvelle, Gray, 14th May 1567, BMB, XXIV, ff. 308-309v; Idem, 18th May 1567, XXIV, ff. 312-314; Idem, 28th May 1567, f. 331 r and v and Granvelle to Philippe Torrentin, Rome, 25th June 1567, AGS, SP, L 1416, ff. 61v and 62, Arrival of Francisco, the brother of Nicolás, of which he has informed Fernando de Lannoy. He is the tutor.
32. Fernando de Lannoy to Granvelle, Vennes, last day of March 1568, BRB, ms. 16096-100, f. 56r and v: [I have written to Seigneur Paulo Joubento the reliable alchemist and as Your Illustrious Lordship has written to me there is hope that I can try to find some invention to change the colour of metals and the little annotations that he finds]. In the original: «*J'escrisau s[aigneu]r paulo Joubento larquimia vray et coment v[ôtre]. s[aigneurie]. Ill[ustrisi].me lescrit yl ay bon espoir ce la le mantienmaisse que Je treuve bon set de trouver quelque invención de changer de colleurs les metals et mle?petites intellesses que il recontrent*».
33. Fernando de Lannoy to Granvelle, Visoney?, 8th October 1569, BRB, ms. 16096-100, ff. 140v and 141: [I have begun to experiment with the varnish of gilt on silver on copper and mine are better and truer than those of the instructions that Paulo Guvent gave me to make silver that has this appearance two parts of copper and one of silver in a cup which is white in a day and two months later becomes the colour of copper Seigneur Paulo Guvent that he has written to me to say that Your Illustrious Lordship has given him quick silver and that he will do something wonderful which we will see when it is finished]. In the original: «*Jay comence a faire experience du vernys de la dorure sur l'argent sur le cuys que forte bien miens et plus veritable que nesont les recettes que me donia le s[eineu].r paulo Guvent pes de la rotonde pour laire argent de telle montre deus pars de cuyvre et une dargent de copelle quel et blan pour un jour ou deus mois apres quel devient colleur de quivre quel mat escrit que v[ôtre]. s[aigneurie]. Ill[ustrisi].me luy at donne de l'argent vyf et que il ferat merveille o le verrat quel passe*».
34. Fernando de Lannoy to Granvelle, Gray, 2nd September 1568, BRB, ms. 16096-100, f. 84v: [I will leave in three days and I have been to see the house in the Garenne at Ornans that your excellency had me build with two storeys but on the way back I want to go inside and see the fountain which is said to be very beautiful]. In the original: «*Je me partyroy dedans trois jours dilla et vens aller veoire le maisonement de la gharene a ornans que v[ôtre]. s[aigneurie]. Ill[ustrisi].me at fyt f[air]e Je lyveu de lon de deus etages de haut moys a me retour Je y vens aller dede et veyore la fontayne que onditette belle*».
35. Fernando de Lannoy to Granvelle, Vennes, 22nd August 1569, BRB, ms. 16096-100, f. 126.
36. Claude de Chavirey to Granvelle, Mouthier, 29th July 1570, BMB, XXVII, ff. 178-182. The count of Lannoy is ill [If misfortune occurs the possessions of Your Illustrious Lordship will not be safe in the castle at Gray]. In the original: «*sil en mes advenoit les capces de v[ôtre] Ill[ustrisme] s[aigneurie]. ne serient bien au chasteaux de gray*».

37. Fernando de Lannoy to Granvelle, Antwerp, 11th December 1570, BMB, XXVII, ff. 292-295; Chavirey a Granvelle, Salins, 30th December 1570, f. 310: on three [possessions that Your Illustrious Lordship has in the castle at Gray should be taken elsewhere as your Lordship orders]. In the original: «*capces que v[ô]tre Ill[ustrissime] s[eigneurie]. a au chasteaux de Gray se debvra y mectre ailleurs sur quoy assi elle ordonnera*».
38. Odet Viron to Granvelle, Brussels, 12th March 1571, BMB, XXVIII, f. 19v: [Monseigneur count Fernando and his wife arrived here twelve days ago and I have accommodated them in a front/ upper chamber and have introduced them to all the household and service/ They have not unpacked their trunks so that they need to be lent household linen and furniture They are a large company and disorganised and as I understand it badly provided with money unless they soon go to get loans?]. In the original: «*Mons[eigneu].r le conte don fernando et madame sont arrivez icy passez XII jours et les ay aloger a la chambre devant/ en hault et leur ay p[rese]nter toute la Maison et de faire service/ Ils nont deffait leurs coffres p[our]quoy Il les fault assister de linges destan et autres meubles Il sont grande compaignie mal en ordre et comme Jentens mal furnir? dargent comme ne sera sans bien tost aller aux emprunts?*».
39. O. Viron to Granvelle, Bruselas, 8th April 1571, BMB, XXVIII, f. 22v: [Regarding Fernando and his wife his companion we are offering all the services that are possible/ And because they sent all their furniture to Arras and they have no crockery or linen my wife is lending them the crockery and with regard to linen it will be at your expense]. In the original: «*Touchant le S.r don fernando et madame sa compaignie Lon leur faittout le service quil est possible/ Et pource quil sont envoie leurs meubles arras et quil mont nulle vaicelle ny linge Ma femme leur bailles a vaicelle et quant aux linges Il se lons que tiens demeura a v[ô]tre charge*».
40. O. Viron to Granvelle, Brussels, 16th July 1571, BMB, XXVIII, f. 53v: [and with regard to the tin crockery they have been served with that from the fountain and regarding the silver they are served with mine and from what I had at the house we have also paid 68 patards to repair the little cart]. In the original: «*2 et quant a la vaicelle destan? Il a este servir de celle de la fontane et quant a celle dargent Il cest servir de la mienne et de ce que Javoie en la maison Aussi Lon a paie po[ur] raconstre le petit chariot Lxviii pat[ards]*».
41. Fernando de Lannoy to Granvelle, Arrás, 21st May 1571, BRB, ms. 16096-100, f. 157.
42. Granvelle to Philip II, Naples, 12th April 1572, AGS, *Estado*, leg. 1061, f. 33.
43. BRUNETTI (in print).
44. M. Morillon to Granvelle, s.d., November 1565, BMB, XCI, f. 142: [I have delivered to the said Viron Fernando [de Lannoy]'s parcel for whom I am having the Holy Trinity according to the measurements that Your Illustrious Lordship sent me the master Christian wants to do the work and [deleted orders me] will take what Your Excellency has told me to pay having seen the work without complaining. I have also told him that it should be done only in beautiful strong colours, and that it should have a good strong canvas to support them and it has to be well prepared so that it will take a month according to what he says before it is dry to receive the colours. He prepared it when I came to St. Amand. I hope to be able to send it at the beginning of January unvarnished]. In the original: «*Jay delivre au d[ic].t Viron le paquet de don fernando [de Lannoy] pour le quel Je faicts f[ai]re la pointure de la S[ain].te trinite selon la mesure que mat envoie V[ô]tre Ill[ustrissime] S[eigneu].rie que m[aîtr].e christian veult f[ai]re nstant charge d'ouvraige. et [tachado: me command] prendra ce que V[ô]tre Ill[ustrissime] S[eigneu].rie aiant veu la besoigne mordonnera sans replique, Aussi que Je luy ay dit quelle ne soit elaboree, mais de belles et bonnes couleurs, et que ce soit forte et bonne toille neuve. car a cela gist tout et quelle soit bien preparee en ce que yra tungmois selon quil dit avant quelle soit seiche pour recevoir les couleurs. Il lat preparé incontinent a mavenue de S.t amand. Jespere la pouvoir envoyer sur le commencement de janvier non vernie./*», PIQUARD, 1947-48, p. 144
45. M. Morillon to Granvelle, Brussels, 9th November 1566, BMB, XCII, f. 340: [I have sent to Monseigneur Vennes [Fernando de Lannoy] on the 23rd of last month the painting of the Trinity rolled up and in a wooden case carried by Chevillot. With a few words from his Seigneurie]. In the original: «*Jay envoie a Monseigneur de Vennes [Fernando de Lannoy] le XXIII.e du mois passe la pointure de la Trinite enrollee en une custode de bois p[our]chevillot. Avec ung mot de l[ett]re de sa S.rie.*». Idem, Aire, 18th January 1567, XCIII, f. 4: [My lord Fernando [de Lannoy] has not yet notified me about the painting of the Trinity, but since Chevillot was the bearer I don't think there will be any problem]. In the original: «*le s[eigneu].r don fernando [de Lannoy] ne mat encores fait advertir de la pointure de la trinite, toute fois puis que chevillot en estoit le porte[ur] Je tiens quil ny avrat heu faulte*».
46. Fernando de Lannoy to a Granvelle, Arras, 19th November 1571, BRB, ms. 16096-100, f. 88v: [Offering all the service in my power I am waiting impatiently to hear some news of the details of the battle from Your Illustrious Lordship's first letters. I think that the battle will be illustrated in a painting and if that is so I beg your Illustrious Lordship to send me a painting. I will have such a worthy painting painted on a large canvas]. In the original: «*Loffrant tou service de mon pouvoir Jattends avecq gran desir quelque nouvelles des particularites de la bataille par les premieres l[ett]res de v. s. Ill.me Je pence que onimprimerat la bataille en peinture si aynsi ettoit Je supplie a v. s. Ill.me de me envoyer une peinture Je le feray issy paindre en gran sur toille chose dygne de m[ett]re en peinture*».
47. M. Morillon to Granvelle, Brussels, 21st December 1574, BMB, CI, f. 49 r and v, POULLET and PIOT, v, pp. 290 and 292.
48. M. Morillon to Granvelle, Brussels, 11th July 1575, BMB, CI, f. 93 (familiae). Fernando and his sister go to Artois on 10th [The lady asks for her legacy of 200 escudos and the cup decorated with the arms of Monseigneur, for her husband]. In the original: «*La d. dame demande son legat de 200 escus et la coupee armoiee des armes de monseigne[ur] son d.t mari...*».
49. Fernando de Lannoy to Granvelle, Gray, 1st February 1568, BRB, ms. 16096-100, f. 42: [I have received by Your Illustrious Lordship's order seeds from the garden of the oconomus Patanella for which I most humbly thank Your Illustrious Lordship and I have also written to him to thank him]. In the original: «*May recheu par ordonnance de v. s. Ill.e des graynes de Jardins del S.or ecónomo patanella de quoy Jen remercie humblement a v.s. Ill.me ausy je luy e escriis en le remerciant*». Idem, Dole, 14th February 1568, f. 46: [I kiss your hand for the present of the seeds that were sent from Milan by the oconomus Antonio Patanella]. In the original: «*bessant la mayn de le faveur des graynes y sont este envoie de millan par le S economo m. Antonio patanella*».

50. Fernando de Lannoy to Granvelle, Brussels, 25th February 1571, BRB, ms. 16096-100, f. 153: [I have received two letters from Your Illustrious Lordship and one from our brother with seeds which will be for our garden in Arras]. In the original: «Jay Recheu deus l[ett]res de v.s. Ill.me et une de mons.r nro frere avecq des semences que serront pour n[ô]tre jardin de arras».
51. Fernando de Lannoy to Granvelle, Gray, 26th May 1568, BRB, ms. 16096-100, f. 61v: [my good friend [Madame Thoraise, Granvelle's sister?] humbly begs the good grace of Your Seigneurerie and as she has been working on a canopy for two months she is sending it to Your Seigneurerie begging that He accept her small gift]. In the original: «ma bonne amie [madame Thoraise, hermana de Granvelle?] se Recomande tres humblement a la bonne grace de v.s. et coment il y a deus mois quelle uvre toujours a un pavillonil et asseve elle lenvoye a v. s. Ill.e la suppliant de acetter se peti present». He also talks about his fortifications. The cardinal would send his sister luxurious materials like silks from Naples.
52. Madame de Vennes to Granvelle, Gray, 6th May 1569, Archives générales du Royaume, Bruselas (AGR), Mss. Divers 5460, f. 306. She is his sister and sent him a canopy a year before: [I very humbly beg you to send me [from Rome] a pair of agate paternosters and one of copper as the present fashion is to wear them]. In the original: «Je vous supplie tres humblement de me vouloir envoyer [de Roma] une paire de patre nostre dagatte et une de couvre? pource que la façon est vaine a ceste heure quon en porte...»; Fernando de Lannoy to Granvelle, Besançon, 8th June 1569, BRB, ms. 16096-100, f. 117 (note): [Monseigneur my good friend and wife humbly begs your Illustrious Lordship to send a medicament that is called alchermes as much as can be contained in a hollow half walnut because she says that it is good for the beating of the heart which she suffers from and for weakness]. In the original: «Mons.r ma bonne amie et feme supplie humblement a v.s. Ill.me de lenvoyer dune droghe que sapelle de larcarme autant que une cruse dune demi nois plaine pour ce quelle dit que cela et bon contre le bate c[o]eur de q[u]oy elle e[s]t tormente et pour la foyblesse».
53. M. Morillon to Granvelle, Leuven, 27th June 1569, BMB, XCV, f. 151: [I will need on my return to Brussels to obtain from Mr. Jerome the apothecary some alchermes for Madame de Vennes and deliver them to Fernando de Lannoy]. In the original: «Je ne fauldray a mon retour a brucelles de recouvrer de m.e Jerome lapothicaire des alquerms pour madame de Vennes et les f[air]e tenir au s.r don fernando de Lannoy./».
54. M. Morillon to Granvelle, St. Amand, 1st November 1572, BMB, XCVI, f. 234v (POULLET and PIOT, p. 498). In f. 230. He speaks of Fernando de Lannoy [I will need to communicate to Madame your sister the remedies that you have written for the illness of the said Seigneur]. In the original: «Je ne fauldray de co[mun]iquer a madame vre seur les remedes que mavez escript pour le mal du d.t S.r»; Idem, Brussels, 8th August 1574, C, f. 247v: Fernando de Lannoy's illness [I wish he were here to give him the decoction that Jerome the apothecary will make]. In the original: «Je vouldroie quil fut icy affin de luy donner la decection que ferat m.e Jerome lapoticaire»; Idem, 24th August 1574, BMB, Granvelle, C, f. 237.
55. François Dachey to Granvelle, Besançon, 5th January 1575, BMB, XXX, f. 8, He is cared for by the same man that cured the Prince of Sulmona from a poisoned arrow.
56. Granvelle to St. Mauris (Bellefontaine), Rome, 14th July 1578, BMB, LXXXIII, f. 136.
57. Granvelle to St. Mauris (Bellefontaine), Madrid, 30th November 1579, BMB, LXXXIII, f. 185: [I wish him to be laid to rest in the Jacobin church of Poligny, on the advice of Monseigneur Dandelost. I would have wished him to be in our chapel at the Carmelites, or in the one that I have had built in Ornans, where there is a private altar and it would have been an honourable remembrance of him, as he certainly deserved, but as it is, as you write, it would seem that he has been laid without being moved from where he is, according to the desire of the prince of Sulmona ...]. In the original: «Jentends que lon la deposse aux jacopins de poligni, p. ladvis de mons.r dandelost, Je heusse volentiers veu en n[ô]tre chappelle aux Carmes, ou en celle que Jay faict faire a ornans, ou Il y ha aultel privilege, et Luyeus se faict faire la honorable memoire, comme certes Il ha merite, mais puis que ainsi vad, comme vous mescripvez, Il me sembleroit que lon a etendit sans le transporter, de ou il est, la volonta de mons.r le prince de Sulmona...». In the end the desires of the cardinal were not satisfied and his black marble tomb could be seen in Poligny until the 18th century.
58. Granvelle to Philip II, Madrid, 5th January 1580, AGR, Mss Divers 5460, f. 104. He asked for it in a letter of 4th December 1579 (f. 108).

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Alessandro Farnese: «Brave as Achilles, ingenious as Ulysses?»

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Alessandro Farnese occupied a prominent place in European court society due to his origins, career and the legend that grew up around him after his death. He was born in Rome on 27 August 1545, the first son of Ottavio (1524-1586), and Marguerite of Austria (1522-1586). Alessandro's paternal great-grandfather was Pope Paul III and his maternal grandfather was Emperor Charles V. This made him the nephew of Philip II and Don Juan of Austria as well as the cousin of Don Carlos. After spending his first five years in Rome, Alessandro arrived in Parma where he spent only two periods of his life not as Duke: the first was from 1550 to 1556 and the second was from 1565 to 1570. According to the Ghent agreements (1556), Alessandro was to train at the court and therefore left Parma for Brussels (from 1556) and then Madrid from approximately 1559). His second spell in Parma, begun after his marriage to Maria of Portugal (1565), ended in 1570 when Alessandro decided on a career in the army and took part in the battle of Lepanto (1570). He then moved to the Low Countries where he fought for control of the country and



FIG. 1 FAMIANO STRADA, *De bello belgico*, 1647. Portrait of Alessandro Farnese.

became its governor (1578). He remained in Flanders even after succeeding his father to the dukedoms (1586) and died in Arras in 1592 [FIG. 1]¹.

When alive, Alessandro Farnese dissuaded anyone from writing his biography, preferring to use images to record his actions. Upon his death, which happened at a time when his prestige was waning at court, the Duke of Parma was burdened with a kind of *damnatio memoriae* that his son Ranuccio sought to overturn by promoting work celebrating Alessandro's military and political prowess². Alongside the first lavish public commemorations (held on 3 April 1593 in the church of Santa Maria in Aracoeli in Rome), his death was also marked in the private sphere of Palazzo Farnese; Ranuccio and Odoardo asked Annibale Carracci to prepare a cycle of paintings, which were never completed, to adorn the walls of the great hall³. The intention of his heirs was to build an image of their father as the greatest soldier of the Farnese house. Having been born in Rome, Alessandro was deemed to be a natural successor to the ancient Roman *condottieri* and at the time of the *pompa triumphalis* Simone Moschino depicted him in a statute that remained in the centre of the great hall until 1653⁴. Giovanni Guerra drew 138 drawings representing the events of the Duke's life dating back to 1608. This was a commemorative work that was not carried out for any particular customer. It was probably done for commercial purposes⁵.

Immediately after the Duke's death, a modestly appreciative biography was written by Paolo Rinaldi, someone who was close to Alessandro as a courtier and secretary and also present in his battles⁶. The first printed biography was written by Pietro Fea in 1886; Leon van der Hessen dedicated a substantial five-volume work to the Duke, referring to documents that have now been destroyed; the work therefore remains an essential point of reference for new studies⁷.

Alessandro's many interests and the fact that his life was divided between Italy, the Low Countries and Spain means that archive documentation is dispersed throughout Europe and an international, multidisciplinary approach is required. Such an approach was taken in an important convention dating from 2005, held between Brussels and Rome, but the proceedings are unfortunately not available⁸.

Alessandro Farnese's interest in military architecture is unquestionable even though we have been left with few clues and even less hard evidence supporting his activity as a designer. This discussion is divided into three sections with the aim of providing an initial general assessment: In Parma; News from Flanders; *Commentarii*.

IN PARMA

1550 – 1556

From the moment it was established (in 1545 at the behest of Pope Paul III), the Duchy of Parma and Piacenza had to defend itself against the ambitions of its neighbours and even against the papacy itself, which tried to recover these territories after the death of the Farnese Pope⁹. Tensions erupted into wars (in 1551 and 1557) that Duke Ottavio was able to turn into opportunities to demonstrate his loyalty to Charles V¹⁰.

Ottavio Farnese played a key part in his son's early education, although the history books often neglect him in favour of the more interesting Cardinal Alessandro and Marguerite of Austria. He was a worthy soldier and so competent in military architecture that he was appointed a member of the committee of experts for the Vatican fortifications¹¹. Ottavio knew some of those responsible for the Castro defences because his father Pier Luigi had summoned them to Parma¹². The Duke was interested in this discipline throughout his life and many architects asked him for protection or work opportunities: these included Giacinto Barozzi, Giovanni Boscoli, Gennaro Bresciani, Lorenzo Pomarelli and many others present in the *Epistolario scelto* of the Parma Archive. Ottavio had a close bond with some of the soldiers in the Vitelli family, particularly Paolo (a courtier and defence expert), Ferrante (who supported Paciotto on the works at Fidenza) and Chiappino¹³. Soldiers and engineers in transit between different states were invited to stay in the Duchy. These included Domenico Mora who, in a dedication to Ottavio in his treatise, remembered visiting Parma in 1569. He met Alessandro there and had the opportunity to talk to him about «some things surrounding the profession of war»¹⁴. In addition to military architecture, Ottavio also occupied himself with civil architecture because the state needed a new image. Without neglecting roads, bridges and embankments, the Duke started building work on the Palace of Piacenza (the first design by Paciotto dating from 1558, was followed by another by Vignola in 1561), Palazzo della Pilotta in Parma (dating from 1561) and conversion of the castle to a residence¹⁵. In a double portrait, Ottavio appears with a man behind him, guiding his hand while pointing a compass to a sheet where a plan of a church is drawn. The man has long been believed to be Francesco De Marchi and the painting therefore refers to the Duke's interest in architecture, which he perhaps practised as an amateur¹⁶.

After the reunification of the court in Parma, with the arrival of Marguerite and Alessandro from Rome in 1551, Francesco Paciotto (1521-1591) and Francesco De Marchi (1504-1576) also came to the city; these men have different backgrounds but frequented the same cultural settings in Rome.

The former was from Urbino and very close to the della Rovere family. He was sent to study classics and also architecture through Girolamo Genga. During his time in Rome (from 1540), he was admitted to the Accademia Vitruviana where he devoted himself to recording ancient monuments and may have been involved in the fortification of Ancona, as he was Pope Julius III del Monte's architect. Paciotto was brought to Parma by Cardinal Alessandro Farnese and some letters of recommendation have survived from Alessandro Manzoli, a man linked to learned Roman circles¹⁷. Paciotto was charged with defending the Farnesian capital. There are no traces of his work as a military architect, although he certainly worked on the Parma *Corridore* and the Ducal Palace of Piacenza, where he also served as an engineer in the committee on the ornamentation of the city in approximately 1556. The records show that Paciotto was active as a military architect for San Secondo, Montecchio, Scandiano, Correggio, Guastalla and Fidenza (then Borgo San Donnino) at the time of the 1557 war¹⁸. The bond with Paciotto, who dedicated his map of Rome published by Lafrery in 1557 to his patron, was extremely intimate. This is borne out by the tone of some of his letters, which pushed the boundaries of decency¹⁹.

They remained close even during the years that took the architect far from Parma. Paciotto continued his career successfully in the service of Philip II (he was even consulted on a design for the Escorial), Emanuele Filiberto of Savoy and again the Pope²⁰.

Francesco De Marchi was born into a family of inlayers from Bologna and did not have a sound cultural background. His role is still obscure, but we know that he served Alessandro de' Medici and in particular his wife Marguerite of Austria with whom he lived in Rome²¹. His stay in Rome was fundamental to developing his interest in antiquities (he was a member of the Accademia dei Virtuosi al Pantheon) and military architecture. De Marchi reminisced about meeting Alessandro and Paolo Vitelli, Francesco Montemellini, Iacopo Castriotto and Antonio da Sangallo the Younger, all experts in military architecture engaged in the Roman fortifications²². During the same period, he began to design and engrave his drawings of fortresses, demonstrating an early interest in theory²³. De Marchi played such an active part in the life of the papal capital that Pope Paul III Farnese granted him Roman citizenship. De Marchi came to Parma because of Marguerite of Austria, who was already the widow of Alessandro de' Medici; on his arrival in the court of Parma, he immediately became engaged in army affairs. In 1552, he was remembered as a captain, and during the same period he drafted a book on artillery and drew a map of Parma that was subsequently included in a posthumous treatise dated 1559²⁴. De Marchi devoted his life to Marguerite, who he followed to Flanders and the Abruzzi Feuds, where the Duchess retired during her later years.

In addition to Paciotto and De Marchi, Francesco Salomoni (1478-1569) was also present in Parma. He was granted citizenship due his sterling efforts in helping to drive away French and Venetians in 1521²⁵.

Salomoni and Paciotto, followed by De Marchi, played an important role in Alessandro's training. This is borne out by a letter from his son Ranuccio Farnese (1569-1622), the first two taught his father «arithmetic and practical design of fortifications and so on for more than three years»²⁶. Nothing much more can be added with regard to Salomoni, whereas the role of Paciotto can be better defined. We know that in approximately 1553, the latter was engaged in writing a treatise on mathematics, geometry and fortifications that may have been used to teach the Prince²⁷. Alessandro must therefore have received a technical type of education: notions of geometry, the abacus, ballistics and drawing, designed to teach him about every part of a fortification and its function. This knowledge allowed him to design defences.

In 1554, Marguerite of Austria invited Francesco Luigini (1526-1568) to Parma to take care of his literary education. This humanist from Udine had been a private tutor at the Corner (or Cornaro) home in Venice and was then a teacher in Reggio Emilia²⁸. He was given the task of helping the young Farnese in his classical studies, supported by his uncle the Cardinal²⁹. However, as Paolo Rinaldi wrote, the Prince «never became interested in literature» preferring to devote himself to physical activities and simulated battles³⁰.

1565 – 1570

After his marriage to Maria d'Aviz (1538-1577), niece of the King of Portugal, Alessandro's return to Parma in 1565 was preceded by a letter from De Marchi describing the

things he was preparing for the Prince's entertainment: games involving weapons, to demonstrate his physical prowess and with animals³¹. The five years he spent in Parma (with short gaps in Venice and in his mother's Abruzzi Feuds) were an opportunity to address matters concerning the government of the dukedom and probably to follow the works that Paciotto and Ferrante Vitelli were carrying out in Fidenza³².

NEWS FROM FLANDERS

1556 – 1565

In 1556, the 11-year-old Alessandro arrived in Brussels accompanied by his mother Marguerite. He came with his tutors Luigino and Giovanni Aldovrandi. They were joined by Giuliano Ardinghelli and Meichior Snek. The latter was his German teacher³³. During his early years in Brussels, the young Prince was treated with all the honours due to his rank and the benevolence of the King, who accompanied him to England to visit Mary Tudor in 1577. In Flanders, the young man continued to devote most of his day to physical activities, as Luisino reported in a letter to Duke Ottavio³⁴. In following the court, Alessandro also spent some years in Spain (1559-1565 approximately). This period was important for the completion of his education and because, in Valladolid, he met and became close to the heir to the throne, his cousin Carlos (1545-1568) and his uncle Don Juan of Austria (1545-1578).

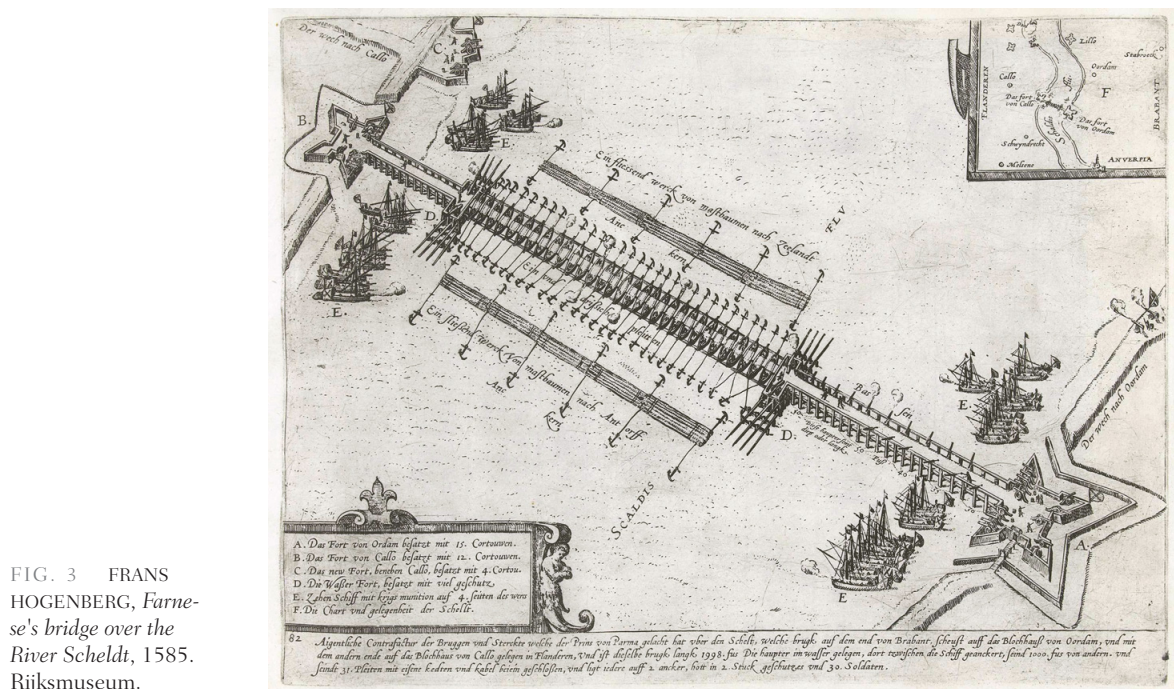
Their relationship was of esteem, friendship and trust, particularly with Don Juan. All three were the same age and studied at the University of Alcalá de Henares, when they were also supported by Honorato Juan; the latter was a humanist of European renown who was already present at the court with Charles V. He was known for his learning and his interest in mathematics, astronomy, perspective and architecture³⁵.

During those years, De Marchi followed Marguerite of Austria and thus remained close to Alessandro, encouraging his interest in military architecture. In 1559, in Ghent, he gave him a book of fortification designs similar to that given to Philip II³⁶ and in 1565 he noted in a letter that the Prince enjoyed «looking at drawings of fortifications» and said that «he wishes to learn about artillery. I must say that he has a particular bent for matters of war. In any case, he wants a copy of my work, which is all done by hand; it will take me at least three years working seven or eight hours a day»³⁷. The references to his writings and how much they were appreciated, as well as his role as collector of architectural drawings were a constant source of pride to De Marchi, who sought financial backers to enable him to publish his treatise while also being anxious to gain standing as a military architect³⁸. Marguerite spurred De Marchi to print his writings and during his years as governor of the Low Countries (from 1559 to 1568), commissioned him to take charge of the fortifications of Tournay (1567) and the citadel of Antwerp. This last opportunity backfired, because his plan was passed over in favour of one by Francesco Paciotto, who was protected by the Duke of Alba (Marguerite's political rival), which was prepared with the aid of two of the best fortification experts: Gabrio Serbelloni, Master-General of Artillery and Chiappino Vitelli, Master-General of the Field³⁹.

In Flanders, Alessandro preferred to use Italian architects and engineers, who were present in large numbers due to their acknowledged superiority⁴⁴; his relations with Jacques Van Noyen⁴⁵ also documented, and particularly with Pierre Lepoivre⁴⁶ who reported working with Francesco Paciotto, Bartolomeo Campi, Gabrio Serbelloni, Properzio Barozzi and Giovanni Battista Piatti while they were in the service of the Duke of Alba and Farnese⁴⁷.

Parma had a pragmatic knowledge of military architecture, because this was useful during sieges; night-time reconnaissance to study the enemy's defences prior to the attack, whose early stages were aimed at swift, violent destruction of those structures⁴⁸. According to Rinaldi, before the attack on Tournai (1582), Alessandro exhorted the soldiers to «use intelligence, commitment and judgement to ensure things go well»⁴⁹. The Prince surrounded himself with *Machinator bellicus*, *A bellicis machinamentis*, *Machinali scientia clarus*, in other words engineers, according to the definition of the term set out in *De bello belgicus* which was dedicated to him in 1647⁵⁰. Lepoivre adhered faithfully to these requirements, as his Madrid treatise shows⁵¹. If prisoners of war showed particular abilities during matters of war, Alessandro did not hesitate to take them into his service. In the siege of Maastricht (1579); he relied greatly on «a lieutenant of great value, known as Bastian, who was the most thorough, practical, diligent and clever person you could hope to find when it came to defending land or besieged towns... but a very great heretic»⁵². He showed the same attitude to master Hence, who was a skilled carpenter⁵³. While the sappers went about their work, Count Pierre Ernest de Mansfeld, general field master, together with Gabrio Serbelloni and Count Guido di San Giorgio, «both extremely practical in these matters»⁵⁴, inspected the land around Maastricht.

The capture of Antwerp (1585) was the episode that exemplified better than any other the way that Prince Farnese used architecture, engineering and technique. Alessandro's



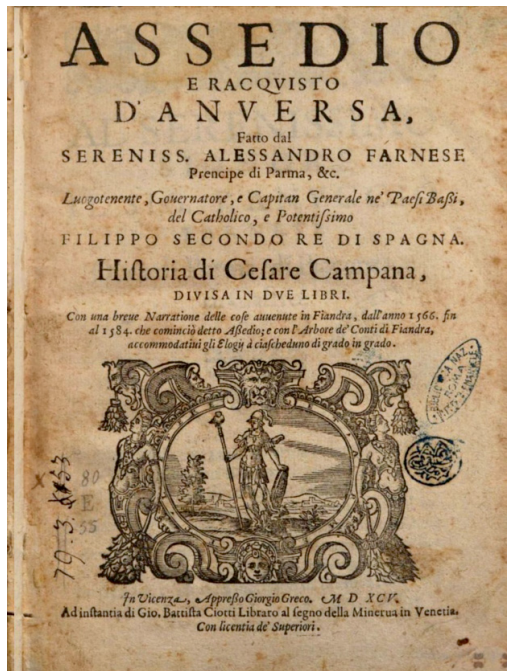


FIG. 4 CESARE CAMPANA, *Assedio e racquisto d'Anversa* (frontispiece), 1595, Vicenza, Appresso Giorgio Greco.

resources of ingenuity and cunning ensured victory, because he rendered the citadel designed by Paciotto in 1567 useless. He did this by building a bridge over the Scheldt to isolate the city, which surrendered after a year of siege in August 1585. Two forts were built on the opposite banks of the river from which two piers on stilts extended. These ended in ramparts defended by canons aimed at the river. Alessandro joined the piers by tying together 32 boats that were anchored at sea⁵⁵ [FIG. 3]. Another set of armed boats and rafts defended the structure under attack by the «infernall machine» designed by the engineer Federico Giambelli, who had long before moved to live in Antwerp after having no luck at the Spanish court⁵⁶. The ingenuity of Properzio Barozzi⁵⁷ and Giovanni Battista Piatti, who designed the wooden structure, calculated its strengths and



FIG. 5 FRANS HOGENBERG, *Siege of Maastricht*, 1579. Katholieke Universiteit Leuven, Centrale Bibliotheek, C1173.

directed works, was essential to Alessandro Farnese's strategic plan. The pair were also present at the siege of Tournai (1582)⁵⁸. Farnese's bridge made such an impact that Alessandro ordered a model to be built so that it could be sent to the papal court⁵⁹. Because the victory was so hard-won, the Antwerp campaign became a milestone in Alessandro's military career and he built his literary and figurative memoirs around it [FIGS. 4 and 5]. He was invested as a Knight of the Order of the Golden Fleece in front of the Fort of San Filippo (one of the two forts built at the ends of the bridge). The bridge of boats was not an original solution because it had already been used in antiquity. Alessandro is therefore celebrated as a soldier and engineer but also as a cultured Prince who was a connoisseur of ancient warfare and a master of classical culture. Paolo Rinaldi never mentioned the names of Barozzi and Piatti in relation to the design of the bridge and implicitly attributed it to Parma alone. He described Alessandro's entrance to Maastricht (21 July 1579) in detail, specifically referring to antiquity: «in his campaigns and actions he reflected the greatness of his lineage in addition to the intelligence, art and manner of warfare of the ancient Romans, meaning that this glorious spectacle could be compared to the success and triumphs of Roman emperors in ancient times»⁶⁰.

In addition to the medals minted by Jacques Jonghelinck, according to custom with the front showing a profile and the back showing views of Antwerp with the bridge in the middle, Alessandro is portrayed standing, with all the symbols of his military command and an edition of Julius Caesar's *Commentarii* on a table nearby⁶¹. Learned parallels were drawn between him and Alexander the Great, who conquered Tyre by creating a causeway (a great engineering work similar to the Antwerp bridge); as Pliny the Elder and Plutarch remember, Alexander the Great had himself portrayed with a lightning bolt in his hand (an attribute of Jupiter) and Prince Farnese is depicted in the same way in an engraving by Gijsbert van Veen del 1586 complemented by two views of Antwerp and Tyre⁶² [FIG. 6]. This link is also referred to in military treatises; in a work by Francesco Patrizi with the evocative title of *Paralleli militari* [military parallels] (1595), Alessandro's bridge is compared with those of Xenophon, Alexander the Great (who built no fewer than four), Hannibal, Caesar and Francesco Sforza⁶³.

Going back to the all-important question of whether the Prince of



FIG. 6 GIJSBERT VAN VEEN, *Allegorical image of Alessandro Farnese*, 1585-1592. Amsterdam, Rijksprentenkabinet.

Parma can be credited with the architectural design of fortifications, we must briefly consider the episodes of Lucca (1588) and Parma (1589). Due to its small geographical size, the Republic of Lucca was subject to the expansionist aims of neighbouring states such as the Grand Duchy of Tuscany, the Republic of Genoa and even the Duchy of Modena. The efficiency of the defences was a major problem: work was carried out on the new walls from the first half of the 16th century and various people were entrusted with the building work at different times. To bring an end to a work that had been dragging on for decades, the city's elect called in Alessandro Farnese, who evaluated the situation by means of drawings and then commissioned his engineers Barozzi and Piatti to draw up a plan that he then supervised⁶⁴. This was the way that all great soldiers worked: they assessed the general situation, identified the problems and discussed solutions with a composite group, including engineers who were entrusted with the actual drafting of the project⁶⁵. Alessandro was undoubtedly involved due to his reputation as an expert but due to the time of his involvement, we are bound to speculate that he was also asked for advice of a political nature, the Prince being a member of the Spanish court. The governor of Flanders advised finishing the building work quickly «because the king is old with many health problems, and I advise you to finish everything as soon as possible because if those who intend to attack you, hoping to settle here, see that you have begun to fortify, they may want to do so at the first opportunity. I am telling you this as a friend, but I do not want to have to be the one to tell you... (because)... because in advising you to fortify... it is almost as though... I wanted to snatch their prey from the hands of those who want to harm you»⁶⁶. The Lucca episode revealed Alessandro to be a soldier, politician and technician when, given the urgency, he advised making the defences out of soil and protecting them with timber because he considered a brick casing only necessary to ensure durability. He evidently prioritised efficiency of action over form.

Matters took on a new complexity for Parma: Alessandro intervened in the capital of the state where he had been Duke since 1586; from Flanders, in March 1589, the Duke asked his son Ranuccio to send him some information connected with the city's defences to Brussels «with due circumspection», via the engineer Genesio Bresciani, who was evidently a man who could be trusted⁶⁷. In August 1590, a plan of the castle was bought to Parma by Giovanni Antonio Stirpio, another engineer serving in Flanders, together with an «instruction signed by my hand» (in other words by Alessandro)⁶⁸. The *istruttione* was the document accompanying the final plan – the one to be implemented – that the group of experts arrived at after months of inspections, discussions and drawings. It was signed by the main person in charge and, in the case of Parma, truly indicates Alessandro's direct involvement in the conceptual stages⁶⁹. The Parma plan is a citadel that could have never been used in defence, and perhaps Alessandro conceived it because the Farnese dukedom was linked to the Spanish crown, which controlled Northern Italy without posing any threat. The model was tried out for the first time in Turin by Paciotto and was then passed to Antwerp before returning to Parma in Italy, where it was reworked on a scale that has never been surpassed; a fortress of rigid geometry and strong symbolic value that aimed to build the image of a far off lord through military architecture⁷⁰.

The initial conclusion is that although Alessandro cannot be considered a «designer», we must acknowledge his ability to master military architecture in the broadest sense, in

other words as reflected in the great turn-of-the-century Italian tradition: the way in which the discipline is covered in the *Commentarii*, which mentions «*architettura soldatesca*» [soldierly architecture].

COMMENTARII [...]

The manuscript kept in the Biblioteca Corsiniana in Rome helped to create an erroneous picture of Alessandro Farnese as a military architect; this historical construct also stems from a hasty and preconceived analysis of the document, particularly over the last few decades. It is a disjointed codex of little originality that is the work of several authors. At least three different handwritings can be recognised. Civil architecture issues are dealt with but over three quarters of the work is devoted to military subjects: from defences to armaments and siege techniques. Alessandro is recognised as the author because of the 19th-century frontispiece which is open to two interpretations: the proposition «of» may denote belonging or literary paternity⁷¹.

One of the first to write about it was Manfredo Tafuri, who was not interested in the identity of the author of the work and even less in matters of military history⁷²; Bruno Adorni, who recognised the poor quality of the work, attributed it to Alessandro and associated it with the construction stages of the citadel of Parma⁷³. Reliable doubts on the authorship were advanced by Ferruccio Canali and reported by Licia Giannelli⁷⁴. Those in favour of Alessandro Farnese's authorship of the work include Martha Pollak in 2010 and, the following year, Sabine Frommel, who announced a plan to publish the manuscript⁷⁵. The planned publication concentrated on an analysis of a small part relating to civil architecture. This partial reading evades an accurate general understanding of this interesting document. Giuseppe Bertini made a crucial contribution in 2014 when he cautiously linked the manuscript kept in the Biblioteca Corsiniana to Ferrante Vitelli⁷⁶; the historian was relying on a letter dated 6 March 1571, written during the period when Alessandro was preparing to take part in the Lepanto campaign⁷⁷. A letter addressed to Cosimo Masi, secretary of Duke Ottavio, Giuseppe Zuccardo remembers urging Ferrante Vitelli to finish «writing Your Excellency's book, which at this point is nearly finished, signor Ferrante having said today that he wants to review everything and post it»⁷⁸. The letter also states that the book chapters are not in order, which is just as they appear in the codex, whose history becomes more complicated at this point. The Roman copy could be the same version mentioned in the letter. Therefore, one could suppose that it was followed by a corrected copy in the right order that Alessandro might have brought with him. Or there may not have been a definitive version of the codex, because it remained at the court in Palma and was updated by means of annotations and additional parts, which would explain the different handwritings and inconsistencies.

These matters do not, however, undermine the value of the document, which is a testament to the knowledge required of a captain of rank and the manner in which it was disseminated⁷⁹. The *Commentarii* contain summaries of numerous treatises (Francesco Ferretti, Niccolò Tartaglia, Girolamo Ruscelli, Girolamo Cataneo, Giacomo Fusto Castriotto, Girolamo Maggi, Luys Collado, Giovacchino da Coniano, Giovanni Battista da

Venafro). They include the experiences of soldiers such as Paolo Vitelli and, because the work was intended for a prince, they review the names and works of Caesar (*De bello civili*), Sallust (*Bellum Iugurthinum*), Guicciardini (*Storia d'Italia*) and Paolo Giovio (*Dialogo delle imprese militari*). The topic of the ancient world, which pervaded the whole of society, also cropped up in the world of armaments through the subject of castrametation, in other words the art of laying out a military camp, which is written about by Polybius (second century BC) and Vegetius (IV-V sec.), who is mentioned in the *Commentarii* together with the work of Guillaume de Choul del 1582, from which some illustrations are copied⁸⁰.

The most striking characteristics of the codex are its substance, practicality and usefulness; these aspects chime well with Alessandro Farnese's interest in war understood as strategy and confrontation. The codex advises the General of an army to have men ready to make trenches, fortifications and drawings (a terrain can be described more effectively using perspectives and proportion than words); soldiers who know about arithmetic and geometry (who can be relied on to use artillery more effectively). Soldiers do not need to know about Vitruvius, but they do need to know about «soldierly» architecture, an expression borrowed from Ferretti. This type of knowledge was typical of many of the practitioners Alessandro surrounded himself with while he was in Flanders.



FIG. 7 GIJSBERT VAN VEEN, *Allegorical image of Alessandro Farnese as a Christian Hercules*, 1585-1592. Amsterdam, Rijksprentenkabinet.

CONCLUSIONS

The recurrent theme of Alessandro's *post mortem* celebrations was almost exclusively that of a victorious and astute soldier (*Leone Belgico*), defender of the Christian faith (*Ercole cristiano*) [FIG. 7] and hero of the house of Farnese⁸¹; literary works commissioned by Ranuccio were joined by portraits and sculpture that recall episodes of war, including the aforementioned series of drawings by Giovanni Guerra⁸². Out of the 138 drawings dating from 1608, which are all celebratory and to be read in parallel with Rinaldi's biography, five in particular draw the attention. The hero is betrayed in different circumstances: appraising a plan surrounded by experts; facing an engineer in front of a fortress under construction; designing the citadel of Parma with compass in hand. Two drawings evoke-

FIG. 8 GIOVANNI GUERRA,
Alexandri Farnesii heroica acta,
1608, vol. I, c. 49, Madrid, Bi-
blioteca Nacional de España.



FIG. 9 GIOVANNI GUERRA,
Alexandri Farnesii heroica acta,
1608, vol. I, c. 51, Madrid, Bi-
blioteca Nacional de España.



ing the relationship between architecture and war do not refer to any specific or probable episodes. Alessandro is sketched in front of four ramparts; the nature of the compositions is dreamlike and visionary. Our hero stands alone, facing his obsession with conquest (in one case he is astride the Belgian lion) set against the utopian diamond shape of an impregnable polygonal fortress. These two drawings almost make the Italian hero look like Don Quixote, protagonist of the novel by Miguel de Cervantes, which had been in circulation for three years by that time⁸³ [FIGS. 8 and 9].

Although De Marchi announced his intention to dedicate his treatise on military architecture to Alessandro, no other author did so despite the high output of the period. This finding is not insignificant when we consider that treatises on the militia were dedicated to Farnese: the first was by Girolamo Ruscelli in 1568, followed two years later by Bernardino Rocca from Piacenza⁸⁴. Treatises were also written by Alessandro Cavalca⁸⁵ from Parma and Giovanni Francesco Fiammelli, both military engineers who fought alongside Farnese in the sieges of Ostend, Maastricht and Rouen. Traces of his collaboration with Alessandro Farnese are easily recognisable, particularly in the works of Fiammelli; it may not be wrong to assume that the corpus of work by Fiammelli⁸⁶ represents a kind of reflection on the military arts stemming from his experiences alongside the Duke (fortifications, sieges, deployment of the militias and encampments). This approach has an illustrious precedent in Francesco Maria della Rovere and the writings of Giovan Battista Leoni and Giovan Giacomo Leonardi⁸⁷.

Being an expert in military architecture was not the same as being a designer⁸⁸ and it is perhaps no coincidence that the last treatise dedicated to Alessandro is again concerned with militias and the deployment of armies on battlefields. The author, Cesare d'Evoli, closed the work with these words: «We will not deal with the forts usually erected around fortresses taken by siege, since our aim is only that of dealing with the deployment of the militias. Once they are overcome and the people of the countryside approach the fort, they must leave things up to the Architect, who is responsible for fortifying»⁸⁹.

NOTES

1. VAN DER ESSEN, 1960; DALL'ACQUA, 1988; MARTÍNEZ MILLÁN, 1997; CARASCO MARTÍNEZ, 1998; BERTINI, 2014.
2. The main ones include: CESARINO, 1593; TORRICELLA, 1594; CAMPANA, 1595; GRATIOLI, 1596; AYALA, 1597; PERUZZINI D'ORCIANO, 1609. In the year he succeeded to the dukedom, a book celebrating his achievements in Flanders was dedicated to his third born son Odoardo, ANONYMOUS, 1586. BERTINI, 2010, p. 94.
3. The events in the cycle of paintings for Palazzo Farnese in Rome of briefly outlined in PARMA ARMANI, 1982, pp. 87-88.
4. PARMA ARMANI, 1982, p. 86; the sculpture was commissioned in 1594 by Cardinal Odoardo and completed four years later; Alessandro is standing, crowned by victory with personifications of Flanders and Scheldt at his feet. The group is now in the Royal Palace of Caserta.
5. The drawings are collected in three volumes and kept in Madrid; see PARMA ARMANI, 1982.
6. Two handwritten versions of the work have survived, one in Brussels (Bibliothèque Royale de Belgique, Ms. II, 1155); the other, which has been used as a reference despite being damaged, is kept in Florence at the Biblioteca Centrale Nazionale (BNCF), FN, ms. II-I-235, *Historia di fiandra del tempo che comandò l'armata il Duca Alessandro farnese composta da Paolo Rinaldi nel 1599* [History of Flanders during the time that Duke Alessandro Farnese commanded the army, composed by Paolo Rinaldi in 1599]. *Originale, ma mancano gl'ultimi libri* [Original, but the last volumes are missing].
7. FEA, 1886; VAN DER ESSEN, 1933-1937.
8. *Alessandro Farnese e le Fiandre – Alexander Farnese and the Low Countries*, Brussels and Rome, October-November 2005.
9. The Medici popes, Leon X and Clement VII, planned to establish a family dukedom in the territories of Parma and Piacenza in order to create a cushion between the pontifical state and Lombardy, which was increasingly under Spanish rule. The estate was considered a feud of the Church as a result of this «original sin».
10. GAMRATH, 2007.
11. BRUNELLI, 2013.
12. Alessandro Tommasoni da Terni, Benedetto Zaccagni (Torchirino), Giovanni Battista Calvi; see ADORNI, 2008, p. 195.
13. On Ferrante and the Vitelli family in general, see BONARDI, 2007, which nevertheless omits to mention Ferrante's activities with the Farnese family.
14. MORA, 1570, p. ii.
15. ADORNI, 2008.
16. BERTINI, 1994; WALDMAN, 2005. «(Original text) *Il Ducha Ottavio fu un de valorosi principi de suoi tempi essendohumanis.mo e splendidiss.mo et oltra modo liberale e un vero mecenate, e rifugio de virtuosi, e nella guerra, e nel governo era eccellentissimo havendo sin da giovane la disciplina dell'opere militari. beniss.mo osservata e esercitata, per servizio di papa paolo terzo come confaloniere di s.ta chiesa, e con l'imperator carlo quindo suo socero, una e più volte, e con diverti e buoni amaestramenti militari tanto per servizio di s. Santità del imperatore, e del Re di spagna suo cognato come per se medesimo, et hanco con rea fortuna, havendo difeso Parma sua citta, dalle forze unite insieme del imperatore, e di Papa Giulio terzo, e contro a capitan di credito e di nome famosissimi Ne governi di stati, non poteva esser ne piu temperato ne piu dolce havendo una singolar maniera, per aquisarsi la gratia e l'animo degl'homini, e nell'audienze era paziente ascoltatore, senza severita e senza esser mai ne aspro ne adirato, nel vendicar l'ingiurie pubbliche e private, era sempre di parere che si dovesse usar temperamento, e accomodarsi ai tempi accioche per troppo rigore, non si perdesse di reputatione, e fu huomo unico in ogni fortuna, e in particolare nella providenza de negotij di stato*» [Duke Ottavio was one of the most valiant princes of his time. He was very human, very noble and extremely liberal, a true patron. He was a repository of virtue and he excelled in war and government. From an early age, he learned military discipline in the service of Pope Paul III as a Gonfalonier of the holy church and of Emperor Charles V, his father-in-law. Through various effective military strategies, he had rendered great service to his Holiness, the Emperor and his brother-in-law the King of Spain and also in his own interests. Even in difficult situations, he had succeeded in defending his city of Parma against the joint forces of the Emperor and Pope Julius III and against valiant and famous commanders. In government, he was an extremely good and balanced ruler, having a very special way of winning people's trust and souls. In his audiences, he was a patient listener, without severity and was never harsh or angry. In judging public and private disputes, he was always of the opinion that one should use common sense and adapt to the times, in order not to lose his reputation due to being over-harsh. He was a truly unique man in any situation, particularly in government administration]; this was Paolo Rinaldi's description of the Duke; BNCF, FN, ms. II-I-235, c. 54.
17. Archivio di Stato di Parma (ASPr), *Epistolario scelto*, busta 22, cc. 1 and 2 (letter from Rome by Manzuoli to Duke Ottavio, 30 January and 10 April 1551). COPPA, 2012, p. 45.
18. ADORNI, 2008, pp. 200-202; COPPA, 2012, pp. 46-47.
19. ASPr, *Epistolario scelto*, busta 22; see in particular the letters of 4 August and 20 November 1559.
20. RONCHINI, 1865; RAGNI, 2001; BRUNELLI, 2014.
21. RONCHINI, 1864, pp. 12-13.
22. «(Original text) [...] *Hora essendo in Roma l'anno millecinquecento quaranta duo 1542 parlando con l'Ill.smo sig.or Alessandro Vitelli, il qual mi disse ch'io dovessi cercare se si poteva trovare modo che le cortine fossero difese da l'artillaria; e che li nemici non potessero impedire con li loro tiri l'uso di quella, e dopo che m'ebbe detto questo il se voltò al Capitan Francesco da MonteMellino buono di professione d'artellaria e de fortificare; e poi al capitano Iacomo Castriotto, poi al Medeghino architetto di Papa Paulo Terzo, e a M.ro Giovanni Mangone, et a Galasso da Carpi, e l'ultimo con quello valentissimo M.ro Antonio da S.Gallo; li quali tutto erano in Borgo nel Palazzo detto dell'Armellino; [...]*» [In 1542 in Rome, I spoke with the illustrious signor Alessandro Vitelli, who asked me if I could find a way to defend the screens with artillery so that the enemies could not prevent them from being used by shooting. After speaking to me, he turned to Captain Francesco da Monte Mellino an expert in artillery and fortifications; and then to captain Iacomo Castriotto, then to Medeghino, architect of Pope Paul III, to Maestro

- Giovanni Mangone, and to Galasso da Carpi, and lastly to the very valiant maestro Antonio da S.Gallo; all of whom were in the city, in Palazzo dell'Armellino]. Biblioteca Nazionale Centrale di Firenze (BNCF), *Fondo Nazionale*, ms. II-I, 278, c. 93v.
23. BERTINI, 2006, p. 222.
 24. BERTINI, 2006; ADORNI, 2008, p. 224, note 21. De Marchi mentioned his book on artillery in a letter dated August 1574 written in L'Aquila; see. RONCHINI, 1864, p. 171. The multitalented De Marchi performed various roles in Parma and never broke off contact with its court: he designed a maze for the garden in Parma, see RONCHINI, 1864, p. 42; he took part in preparations for the marriage of Alessandro Farnese, producing commemorative medals for Marguerite (1560) and Alessandro (1565) BERTINI, 2006, p. 223. In 1558, he was mentioned as the senior commissioner for building work on Palazzo Farnese in Piacenza; DE GROOF, BERTINI, 2000, p. 391. The architect's letters are an essential biographical source; RONCHINI, 1864. One credible critical judgement on De Marchi's activities that tends to downplay his qualities as an engineer can be found in LAMBERINI, 1990 and 2010. See also, VIGANÓ, 2010, pp. 302-303. Continuing the round of critical opinions, De Marchi is described as a «dilettante courtier» in MARTENS, VAN DER VIJVER, 2015, p. 82.
 25. SALOMONE MARINO, 1880. Salomone was also famous for being one of the 13 soldiers who took part in the Disfida di Barletta [Challenge of Barletta] duel of 1503.
 26. The document is quoted in RONCHINI, 1864, p. XXXIX, note 42.
 27. This treatise is acknowledged to be the one now kept in the Bibliothèque Nationale in Paris; COPPA, 2012, p. 33.
 28. CIRILLO, 2006.
 29. RONCHINI, 1870; BERTINI, 2010, p. 80.
 30. This quote is in VAN DER ESSEN, 1933, I, p. 22. In his letters sent to Parma, De Marchi often returned to the Prince's propensity for physical activities and one of the many descriptions written on 30 September 1565 is particularly colourful: [Today the Prince did exercises at the bar and then fought with Manino, and signor Marcello. He broke four pikes and six sticks. He strikes with so much force and speed that he makes them bow down; no-one bears arms better than he does], RONCHINI, 1864, p. 38.
 31. RONCHINI, 1864, p. 35.
 32. ADORNI, 2008; BERTINI, 2014, p. 91.
 33. See VAN DER ESSEN, 1960; for Ardinghelli see MIANI, 1962. Luisino also followed Alessandro to the Spanish court; RONCHINI, 1870, p. 214.
 34. ASPr, *Epistolario scelto*, busta 10, letter of 17 December 1557; the document is partly transcribed in BERTINI, 2014, pp. 83-84.
 35. HERNANDO SÁNCHEZ, 1998, particularly the plate on p. 489, initialled J. B.
 36. BNCF, FN, ms. II-I-277, *Libro del Capitano Francesco De Marchi da Bologna, Cittadino romano, Dichiaratione che cosa sia architettura e Architetto. Intendendosi che l'Architetto sia anchora il valente, e ingegnoso soldato* [Book by Captain Francesco De Marchi from Bologna, Roman citizen, declaration on architecture and the architect, on the understanding that the architect is still a valiant and ingenious soldier], c. 93v.
 37. RONCHINI, 1864, p. 22; from Brussels, 17 June 1565.
 38. «(Original text) *Il sig.r conte di Agamonte e il principe di Orange e Monsignor lo ammiraglio conte di Horno hanno preso tutti li libri di fortificazione, che si trovano; il Cataneo da Siena, quello del Paradico di Brescia, uno di Urbino, il capitano Jacopo Castriotto da Urbino, il capitano Francesco di Montemelino, e uno di Angare, e uno altro capitano (li quattro hanno fatto una opera insieme), e molti altri. Poi tolsero il mio; e hanno con sua commodità veduto tutti questi. Dove hanno trovato che tra tutti insieme io solo sono innanzi a tutti, laonde m'è stato fatto carezze grandi*» [The Count of Agamonte and the Prince of Orange and Monsignor Admiral Count of Horno took all the books on fortifications they found; by Cataneo from Siena, by Paradico from Brescia, one from Urbino, Captain Jacopo Castriotto from Urbino, Captain Francesco di Montemelino, one by Angare, and another captain (four of them wrote one work together), and many others. Then they took mine; and looked at all of them at their convenience. They concluded that I am superior to all the others and congratulated me]; RONCHINI, 1864, p. 15, from a letter from Brussels dated 10 December 1564.
 39. MEIJER, 1988, p. 139; COPPA, 2012, pp. 116-126.
 40. In addition to VAN DER ESSEN, 1960, see PRONTI (edited by), 1995, pp. 33-42; BOCCHI (edited by), 1995, pp. 9-12.
 41. MARTENS, 2007, pp. 405-410.
 42. The investiture ceremony took place in 1585 before the conquered city of Antwerp. The Fleece was bestowed on him by Pierre-Ernest de Mansfeld, oldest of the Masters of the Order in the Low Countries and general field master. MARTENS, 2007, p. 401.
 43. RONCHINI, 1864, pp. 171-178. For the history of the treatise, see. DE GROOF, BERTINI 2000.
 44. MARTENS, VAN DE VIJVER, 2015.
 45. MARTENS, 2007, pp. 105-109.
 46. MARTENS, 2014.
 47. MARTENS, 2007, p. 112.
 48. MARTENS, 2007, pp. 385-386.
 49. BNCF, FN, ms. II-I-235, c. 108 v.
 50. STRADA, 1647.
 51. MARTENS, VAN DE VIJVER, 2015, p. 78.
 52. BNCF, FN, ms. II-I-235, c. 64.
 53. DUFFY, 1979, p. 63.
 54. BNCF, FN, ms. II-I-235, c. 63 v.
 55. VAN DEN HEUVEL 1989. A specific description of the bridge, the «infernal machine» and the siege can be found in VAN DER ESSEN, 1935, IV, pp. 22-31. CAMPANA 1595 dwelt greatly on the bridge yet did not mention the names of Barozzi or Piatti.

56. Two boats loaded with explosives that were launched against the bridge, causing damage that was quickly repaired; see VAN DER ESSEN, 1935, IV, pp. 50-59.
57. Barozzi was the greatest engineer in the Catholic army. He was also the nephew of Jacopo da Vignola, the architect who served the Farnese family in Rome and Parma; MARTENS, 2007, p. 111.
58. DUFFY, 1979, p. 63; THART, 2014, p. 63.
59. VAN DER ESSEN, 1935, IV, p. 28, note 75.
60. BNCF, FN, ms. II-I-235, c. 77.
61. DE LANDTSHEER 2002; DERKS 2015; LATTUADA (edited by), 2016, p. 23.
62. SABBADINI, 2001, p. 159; BODART, 2018.
63. PATRIZI, 1595, II, pp. 371-373.
64. For the building stages and analysis of the plans, the MARTINELLI, PUCCINELLI, 1983.
65. BRUNETTI, 2019.
66. The citation is from MARTINELLI, PUCCINELLI, 1983, pp. 25-26.
67. In 1590, Bresciani was in the service of the Republic of Lucca, see FIORI, 1972. For the construction stages of the citadel, which was completed in 1598, see ADORNI, 2008 and more generally ADORNI, 1989. See also BANZOLA, 1973; CONFORTI, 1982; PAGANO, 1982.
68. The citations are from TAFURI, 1971, pp. 153-154.
69. On the subject, see BRUNETTI, 2019.
70. PARROT, 1997, p. 552.
71. *Commentarii di varie Regole, e Disegni di Architettura Civile e Militare con altre Istruzioni e Precetti di Arte Militare*, ms. originale di Alessandro Farnese [Notes on various rules and designs of civil and military architecture with other instructions and precepts of military art, original manuscript of Alessandro Farnese], Rome, Biblioteca Corsiniana, cod. cors. 663, 32-B.14. The codex is small in format and it contains numerous images. Numerous long notes or additions can be seen alongside the main text in different handwritings.
72. TAFURI, 1971.
73. ADORNI, 1974, p. 152-157, and ADORNI, 2008, p. 206.
74. CANALI, 1997; GIANNELLI, 2003.
75. POLLAK, 2010, pp. 6-7; FROMMEL, 2011, p. 61, note 9.
76. BERTINI, 2014, p. 92, note 58.
77. As a brief aside, Alessandro's choice was not appreciated in his family by his mother, father or uncle, the cardinal. Faced with the young Prince's obstinacy, Marguerite persuaded Philip II to ensure that Alessandro took part in the campaign as a *venturiere*. BERTINI, 2014, p. 92.
78. «(Original text) Sig.or mio oss.mo V.S. mi farà gratia dire al s.or Principe ecc.mo che io non ho mancato di andare ogni di dal signor Ferrante Vitelli doppoi che s.s. si è sbrigata da alcuni disegni che faceva per servizio di s. ecc.a, cioè di Borgo San Donnino et di non so di che altre sue faccende per scrivere il libro dell'ecc.a s. et che a questa hora è presso che finito, havendomi detto hoggi il signor Ferrante, che lo vuole rivedere tutto et postilarlo, et che per questo rispetto sarà necessario raccopiarlo tutto di nuovo, et anco perché i capitoli non sono messi in detto libro per ordine, et vuol termine aver otto di a rivederlo, et postilarlo, però desidera che s. ecc.a Ill.ma mi comanda quello che ha da fare, et vorrei che fosse il signor Cosimo gentilissimo che mi facesse sapere il tutto, che di tutto ne le restarò con perpetuo obbligo, come farò anco mantenendomi in bona grazia dell'ecc.ma s. [...]» [Most illustrious sir, I beg you to tell his most excellent Prince that I have gone without fail to signor Ferrante Vitelli every day because he is completing some drawings in the service of Your Excellency, that is the ones of Borgo San Donnino and I do not remember which others. He needs them to write a book for his Excellency and it is almost finished now. Mr Ferrante even told me he wants to review everything and post it and it will therefore be necessary to copy it all over again, partly because the chapters are not in order. It will take him eight days to review it and post it. He wants to know from his Excellency what is to be done and I would like signor Cosimo to kindly tell me everything. I am eternally grateful to you and I will always be obliged to your Excellency]; ASPr. *Casa e corte farnesiana*, serie II, busta 19, I, c. 12.
79. «Index of subjects covered in this volume. Choice of building sites and materials. City fortifications. Siege defence. Besieging a place. Private building architecture – temples. Artillery and its use. Various weighing and measuring instruments. Various types of compass for drawing. Military stratagems and warnings. Mines and counter minds. Fireworks. Army ordnance. Modern castrametation. Brief instructions for the abacus».
80. DE LANDTSHEER, 2002. For minor sections on civil architecture in the *Commentarii* see GIANNELLI, 2003 and FROMMEL, 2011.
81. DERKS, 2015, p. 173.
82. PARMA ARMANI, 1982.
83. Biblioteca Nacional de España, Giovanni Guerra, *Alexandri Farnesii heroica acta*, 1608, 3 vv. The drawings referred to in the text are: vol I, cc. 49, 51; vol II, cc. 214, 224; vol II, cc. The work is available online: <http://bdh-rd.bne.es/viewer.vm?id=0000223829&page=1>
84. ROCCA, 1570; the first volume of the three volume work is dedicated to Sforza Pallavicino (1566), the second to Alessandro and the third (again in 1570) to Ottavio Farnese.
85. CAVALCA, 1620. Cavalca died in 1579, after being captured and tortured in Maastricht.
86. FIAMMELLI, 1602, 1603, 1604, 1606.
87. BRUNETTI, 2002-2003, p. 126 note 9, p. 128 note 12.
88. MARTENS, VAN DE VIJVER, 2015, p. 104.
89. DEVOLI, 1583, p. 94.

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Juan Fernández de Velasco and the engineers. Power networks and scientific exchanges between Spain and Italy

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In 1601 the Lombard engineer Gabrio Busca published his treatise entitled *Della architettura militare*¹ in Milan [FIG. 1]. The book opens with an extensive dedication to Juan Fernández de Velasco, sixth Constable of Castile, who had held the post of governor of the state of Milan from 1592 to 1600. According to the author, Juan Fernández de Velasco had bestowed many gifts and favours on him during the last years of the 16th century. On his side, the Milanese engineer had faithfully served his lord and the close relationship and affection that he shared with the constable is palpable in his words. But Busca also offered a literary portrait of the courtly and erudite profile of the sixth Constable of Castile, whose cultural interests would fully justify his being chosen as the recipient of a treatise on military architecture:



FIG. 1 GABRIO BUSCA, *Della architettura militare* (frontispiece), 1601, Milan, Appresso Girolamo Bordone, & Pietro Martire Locarni compagni.

«[...] And even more so, to not commit the error that Archimedes used to remark in writers who did not dedicate their works to people who understood these professions. As what prince exists today, who for intelligence, and entire learning, experience and implementation everywhere of military caution, and for the government of states can be placed above your excellency? Who through a singular and most excellent gift from God, is endowed with such rare and excellent qualities [...] so that he is most unique and excellent not only in the professions pertaining to war, to the conservation and government of states, but something that is usually rare in princes, with particular delight and ready ingenuity he is endowed with learning in all the sciences of mathematics and philosophy and all the most refined and beautiful literary arts [...] Evident proof of which can be found in his rich, copious and most ornate library, full of almost innumerable volumes in all the sciences and all the liberal arts, which with great care and diligence, regardless of expense or effort, he has collected together from all parts of Europe and other provinces; filling whoever sees it with wonder [...]»².

Over and above the eulogising tone that dominates this type of dedication, the fact is that the description of the different facets of Juan Fernández de Velasco that Gabrio Busca provides is completely true. In general terms, the sixth Constable of Castile was one of the most outstanding figures of the Spanish nobility on the European scene at the end of the 16th and beginning of the 17th centuries. Throughout his life Juan Fernández de Velasco held numerous and important positions both in political and military government and at the diplomatic level. The constable must have been born around the middle of the 16th century and little information is known about the first years of his life and education. In 1580, still at an early stage in his career, Juan Fernández de Velasco was sent to Portugal in attendance on his father-in-law Pedro Giron, first Duke of Osuna, to deal with matters connected with the succession to that kingdom. In 1582 he went to Naples, once again accompanying the Duke of Osuna, from where he was sent by Philip II to Rome for an audience with Pope Sixtus V on his behalf. Later on, from 1592 to 1600 he held the post of governor of Milan for the first time. After his return to Spain in 1604 he played an important role for the Spanish crown, as ambassador extraordinary in the context of the peace negotiations with England [FIG. 2]. Then from 1610 to 1612 he again held the post of governor of Lombardy. In this latter year – 1612 – he asked Philip III for permission to return to Spain as he was already in a delicate state of health, a request which was granted, and finally, Juan Fernández de Velasco died in Madrid on 15th March of the following year. Thus, around the year 1601 – at the moment when Gabrio Busca dedicated his treatise to him – the constable already had an established political and military trajectory behind him.

With regard to the intellectual qualities and the cultural interests of Juan Fernández de Velasco to which the Milanese engineer referred in his dedication, they are equally credible; as while he was still alive the sixth Constable of Castile enjoyed the reputation of being a man of great ingenuity who delighted in collecting and bringing together everything that could be categorised as marvellous and extraordinary³. His artistic collection and his literary interests have been the object of widespread attention in the field of historiography⁴. His relation with the subjects that Busca emphasised were less studied and



FIG. 2 ANONYMOUS, *The Somerset House Conference*, ca. 1604. Oil on canvas, 205.7 x 268 cm, London, National Portrait Gallery (NPG 665). On the left side of the painting are the representatives of the Spanish legation among whom was Juan Fernández de Velasco, portrayed occupying the place nearest to the window.

well-known, that is to say the science and technics of his era, and more specifically, military arts, engineering and fortifications⁵. The profound interests and knowledge the constable had for these disciplines were reflected in a concrete area of his collection: his famous library, where he gathered together numerous mathematical and measuring instruments, and cartographical and scientific-technical books on the military arts, artillery and engineering.

The oldest document detailing the volumes that were treasured in the constable's library is the *Index auctorum*, an index of the books to be used by the librarian and his lord, which it is thought to have been drafted around the year 1600⁶. Later on, two notarial inventories were drawn up of Juan Fernández de Velasco's possessions: one in 1608 on the death of his first wife – Doña María Girón – which included the books and furnishings of his library⁷; and another compiled in 1613 after the death of the constable, recording all his possessions, with the exception of the library⁸. Therefore, although it is not exactly known which instruments, paintings, books and other objects constituted the constable's library at the moment of his death, the fact is that the contents recorded in the 1608 inventory made it not only one of the most outstanding at the Spanish court, but also one of the best endowed with respect to the mathematical sciences and scientific-technical disciplines.

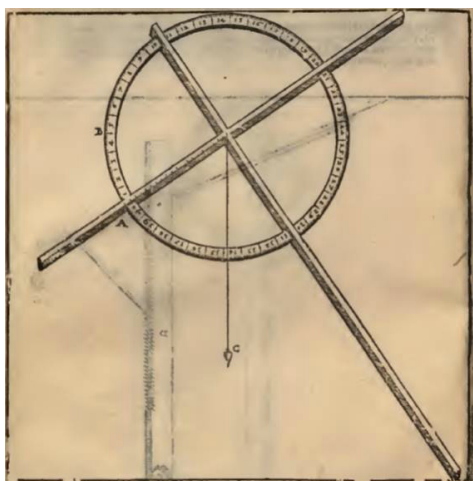


FIG. 3 GIOVANNI BATTISTA BELLUZZI, *Nuova inventione di fabricar fortezze di varie forme*, 1598, Venice, p. 42. Instrument «per misurar altezze larghezze profundità, & ancor se fosti in lochi doue ui fusse bisogno di saper che hora fosse siando in piano uoi potrete veder appresso il vero». Engraving.

Moreover, in 1608 a significant number of mathematical instruments were already part of the constable's library – whether preserved in cases or kept separately –, five astrolabes, a pair of sundials, two pairs of globes (of the earth and celestial sphere), several armillary spheres, etc. Among these the following entry stands out: «A gilt bronze instrument which serves to measure the height of the sun, fortifications and other things with the Velasco arms and those of the city of Milan»⁹, the description of which seems to correspond to the characteristics of one of the instruments used to measure and draft fortifications that Giovanni Battista Belluzzi included in his treatise *Nuova inventione di fabricare fortezze di varie forme* (1598); a book that was part of the constable's reading material¹⁰. To be precise, the instrument described and represented by Belluzzi

that made it possible to «measure heights, lengths, depth, and even if it were in places where it was necessary to know what time it was as they are on flat land»¹¹, would recall the characteristics of the one that was part of Juan Fernández de Velasco's library [FIG. 3].

With regard to the books, these were kept in 64 drawers decorated with maps and portraits¹². The reading material on art and military architecture was mainly in upper drawer XXVI and lower drawer XXVI with a total number of 140 entries recorded in the inventory¹³. With regard to art and military science, the presence of numerous printed editions by classical authors is worthy of mention: three copies of the *Commentaries* by Julius Caesar¹⁴, a similar number of volumes by Sextus Julius Frontinus (two *Stratageme militari* printed in Venice and *Los quatro libros de Sexto Julio Frontino de los exemplos consejos et avisos de guerra*, printed in Salamanca¹⁵) or the *De re militari* by Vegetius¹⁶, to cite some examples. But undoubtedly, the majority of the works on these disciplines were by modern authors, many of whom were contemporaries of the owner of the library: the *Manifiesto sobre la armada de don Rodrigo de Benavides* (1558), three copies of the work *Espejo y disciplina militar* by Sancho de Londoño, a copy of *Della vera disciplina et arte militare* (1592) by Lelio Brancatio, a copy of *Arte militare terrestre e maritima* (1594) by Mario Savorgnano, several volumes of *Parallelli militari* (1594) by Francesco Patrizi, *Diálogos del arte militar* (1588 or 1595) by Bernardino de Escalante, *Theorica y practica de guerra* by Bernardino de Mendoza, *El perfecto Capitán* (1590) by Diego de Álava or *De militia romana* (1598) by Justus Lipsius. Important treatises on war machines and devices should be added to these like: *Le diverse et artificiose machine del capitano Agostino Ramelli* (1588) [FIG. 4], *Poliorceticon sive, de machinis tormentis telis Libri quinque* or *Teatro de los instrumentos y figuras matematicas y mecánicas* (1602) by Jacques Besson.

The treatises on fortifications and artillery were equally abundant, whether in manuscript form or printed. With respect to the former, Juan Fernández de Velasco owned interesting manuscript books like «Two volumes by Francisco Marquez of fortifications

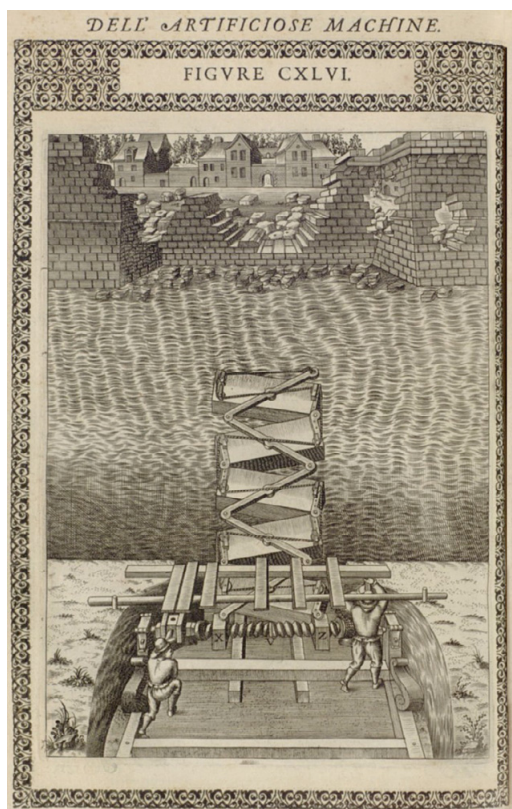


FIG. 4 AGOSTINO RAMELLI, *Le diverse et artificiose machine del capitano Agostino Ramelli*, 1588, Paris, In casa dell'autore, f. 138v. «Vn'altra sorte di ponte, co'l quale si passa símilmente l'acqua del fosso d'una città, ouer d'una fortezza molto fácilmente». Engraving.



FIG. 5 GABRIO BUSCA, *Della espugnazione et difesa delle fortezze di Gabriello Bvsca Milanese*, 1585, Turin, Nella Stamperia dell'herede di Nicolò Beuilacqua. Libro II, Cap. IX. Le ritirate delle batterie, come fare si debbono, p. 222.

and one handwritten and the other with excellent engravings», «Study of Artillery handwritten with some drawn illustrations bound in cardboard», «Proportion and use of artillery with some hand-drawn tables bound in parchment» or «eight books four of them contain maritime fortifications floor plans of them and the four handwritten ones that deal with what the first four contain in their figures and paintings»¹⁷, among other entries. In general, they are manuscripts which are complicated to identify with the exception of some records like the one corresponding to «Alvaradina [which means the work by Alvarado] which contains very necessary warnings about things dealing with artillery»¹⁸. This volume, written by Espinel de Alvarado, was profusely illustrated with brown ink drawings which depict the measuring instruments and procedures used in artillery and in view of the information that its author provides in the dedication to the constable, could be dated between 1592 and 1598.

With regard to the printed books on fortifications and artillery, our attention is drawn both by their abundance and by the fact that some of the volumes that Juan Fernández de Velasco possessed were written by engineers who were working in Lombardy at the service of the Spanish crown during the last decades of the 16th and beginning of the 17th centuries. This is the case of the treatises *Della espugnazione et difesa delle fortezze* by Gabriello Busca [FIG. 5], *Plática manual de artillería* by Luis Collado¹⁹ or *Discurso del Capitan Cristoual Lechuga* (1603).



FIG. 6 ABRAHAM ORTELIUS, *Theatro de la Tierra Vniversal*, 1588, Antwerp, Christoual Plantino, Prototypographo d'el Rey nuestro Señor en sus Estads Baxos. «Dvcatus Mediolanensis, finitimarvmo, regionv[n] descriptio avctore Ioanne Georgio Septala Mediolanense». Engraving.

The presence of such instruments and volumes in the constable's library constitutes a first indication as to his leanings towards these subjects and, as will be shown, these were interests that went beyond being a mere – if this is the word – «hobby». In this respect, some prior studies have presented occasional reports that bear witness to Juan Fernández de Velasco's relationships with certain architects and engineers throughout his life²⁰. Thus, it is known that on his return to Spain from his stay in Naples in 1586, the constable brought with him to the Iberian Peninsula Giovanni Vincenzo Casale, who worked for him on the Dominican church of Villalpando, which suggested that the Castilian nobleman must have ensured a certain amount of protection for the Florentine engineer²¹. Later on, in 1604 the constable visited the fortifications in Guipúzcoa accompanied by the engineer Jerónimo de Soto²², disciple of Tiburzio Spannocchi. And it was also Spannocchi and Soto who designed the new country house that Juan Fernández de Velasco was intending to build in el Real Sitio de la Ventosilla²³.

It is of interest here to analyse the link that the constable maintained with certain engineers, especially during his first mandate as governor of Milan (1592-1600). The choice of this period is far from fortuitous but rather obeys the particularities and strategic geopolitical location of this state of the Spanish monarchy that at that time was considered «the key to Italy»²⁴ [FIG. 6]. This situation of Milan, where the work of engineers

and technicians to guarantee its defence was constant, meant that knowledge and experience in the field of military art and fortifications constituted essential requisites for those personages who, between the end of the 16th and beginning of the 17th centuries, were designated to hold the post of governor. This is evident from a cursory review of the list of governors of Lombardy during this period: from Ferrante Gonzaga²⁵, the Duke of Terranova or the subject of the present article – the sixth Constable of Castile – to the Marquis of Leganés, already in the middle decades of the 17th century²⁶.

These questions are perfectly reflected in the *Istruzion [Instruction]* that Philip II handed Juan Fernández de Velasco in 1591 before he left for Italy²⁷. In fact, in the first point of the document the constable was warned of the problems of the «uezindad» [vicinity] of the Grisons and the risk that the proximity of this population represented for the Catholic faith. Similarly, another of the points of this same *Istruzion* underlined the importance given to the castle in Milan, and even encouraged the future governor to prevent, by all means possible, the sale of trees and firewood to foreigners so that the neighbours could not fortify their cities, avoiding at the same time a scarcity of such raw materials for fortifying his own. In view of the data that will be analysed below, it seems clear that Juan Fernández de Velasco had to bear these indications very much in mind as some of the actions that he promoted during his first mandate in Milan point in this direction.

THE SIXTH CONSTABLE OF CASTILE AND THE ENGINEERS (ca. 1592-1600)

In January 1594, Juan Fernández de Velasco ordered the military engineers Gabrio Busca, Genesio Bressani, Paolo de' Ferrari, Luis Collado and Giovan Battista Clarici to inspect the castle in Milan, giving his opinion on the fortification works that should be carried out there²⁸. Over and above this recognition, other documents show that the constable's intervention in what was the emblem of the city and the symbol of its power had to be of great importance as during his mandate a bastion was built which bore his name. The works on the Velasco bastion must already have begun precisely in January 1594 as can be deduced from a solicitation made by the entrepreneur commissioned to carry out the work in which he states that «Giouan. Batt[ist]a Mayno who has been charged with the building works in the castle of Milan in the bastion named after the constable, with its batter by the moat [...]»²⁹. Towards the end of 1597 the construction of this bastion must have been practically finished as it was then that a public tender was published for the construction of a new bastion «on the side of the pincer of said castle in Milan called the Pincer Bastion or Acugna Bastion»³⁰. In the first of the conditions that the future tenderer had to comply with is a reference to another recently built bastion which bore the name «Velasco»:

«First the tenderer should be made to build a bastion and its curtain wall for the said castle towards the mentioned pincer which is falling apart, in the same place and with the same grandeur and quality that will in fact be designated by the agents and engineers of the royal household. It should correspond to one which was built again called Velasco, and the other

called Carminette, beginning with the building of the façade with its traverse facing the Velasco bastion, and erecting it until it remains as a defence [...]»³¹.

The building of the Acuña Bastion was finally awarded to the entrepreneur Giovanni Battista del Mayno, who on 27th January of the following year signed the commitments which he contracted for the said building³². Thus, before December 1597 one of the bastions dedicated to Juan Fernández de Velasco had been built, forming part of the fortifications of the castle of Milan, which at the beginning of the 17th century presented a regular and harmonic articulation in the shape of a six-pointed star³³. Although the graphic sources which make it possible to reconstruct the morphology and transformations that occurred in the Sforza Castle between the end of the 16th and beginning of the 17th centuries are scarce³⁴, a watercolour drawing dated 1659 is interesting as it included the nomenclature assigned to the different parts of the fortress which possessed highly symbolic connotations and meanings [FIG. 7]. The drawing is headed by a title that reads «Part of the city of Milan». However, the image represents a concrete place in the city which is none other than its castle and fortress, including the name of each of the bastions: «Alburquerque», «S. Iago», «Padiglia», «Velasco», «Acugna» and «D. Pietro».

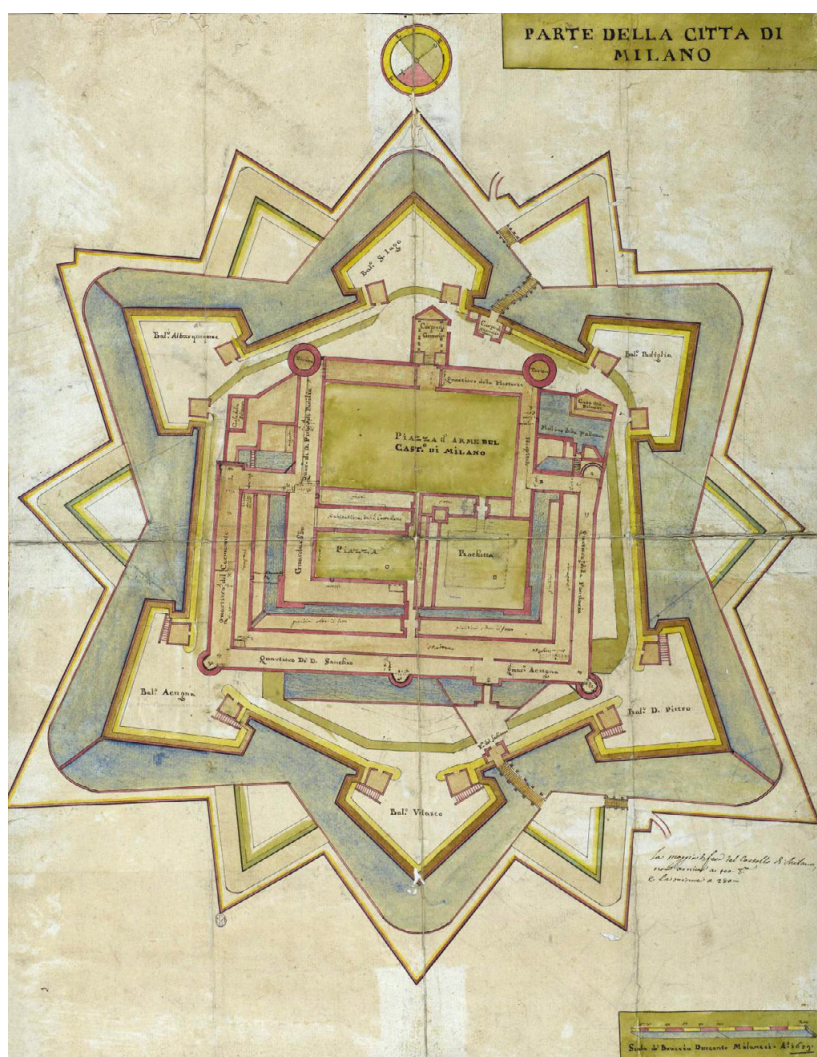


FIG. 7 ANONYMOUS, *Parte della città di Milano*, 1659 watercolour drawing on paper, 582 x 445 mm, Milan, Raccolta delle Stampe «Achille Bertarelli» (inv. n° P.Vg. 36-13). © Castello Sforzesco.

The choice of these names is not mere chance, but rather each of the bastions was named after one of the state governors or Castilians in Milan who held these posts during the last decades of the 16th century, and to the patron saint of Spain³⁵. In this way, the association of the fortress bastions to these names offered an image of power and a metaphor, in a certain fashion, of the political system and the Spanish government during the last decades of the 16th century³⁶. Moreover, relatively speaking, the underlying message was not very different from the one that, in this same city, it was hoped to transmit with the gallery of the governors' portraits which was exhibited at the end of the 16th century in the royal-ducal palace, the residence of the successive governors. Juan Fernández de Velasco ordered work on this gallery of portraits, the structure being started in 1594, to decorate the lower portico of the main garden of the royal-ducal palace, and its supervision was assigned to Giovan Battista Clarici³⁷.

In this respect, during the last years of the 16th century the royal-ducal palace was the scene of successive remodelling works of different scope promoted by the then governor of Milan – the sixth Constable of Castile – which were permanently supervised by the engineers of the royal household. Thus at the end of the year 1598, we again find Clarici with fellow engineer Tolomeo Rinaldi, valuing the numerous stone and wooden works by maestro Antonio Maria Prata, from October of that year, in different areas of the palace³⁸ or appraising the paintings by Valerio Profondavalle to decorate the main box of the theatre or the «Salone Margherita», its staircase, the candelabra and even the painting of the scene that was represented³⁹.

If the ducal palace was the seat of political power and the residence of the governor, the Milan cathedral (Duomo) which was nearby constituted the epicentre of ecclesiastical power and that of the Milan bishopric: two powers which frequently disagreed⁴⁰. In fact, the engineer Tolomeo Rinaldi was commissioned to draw the plans for the Milan Cathedral which, together with the letters of the constable, were sent to Philip II in 1596 to inform him and describe in detail the conflict which took place between the cardinal Federico Borromeo, archbishop of the city, and Juan Fernández de Velasco due to the discrepancies about the place that the governor of Lombardy should occupy in the celebration of liturgical

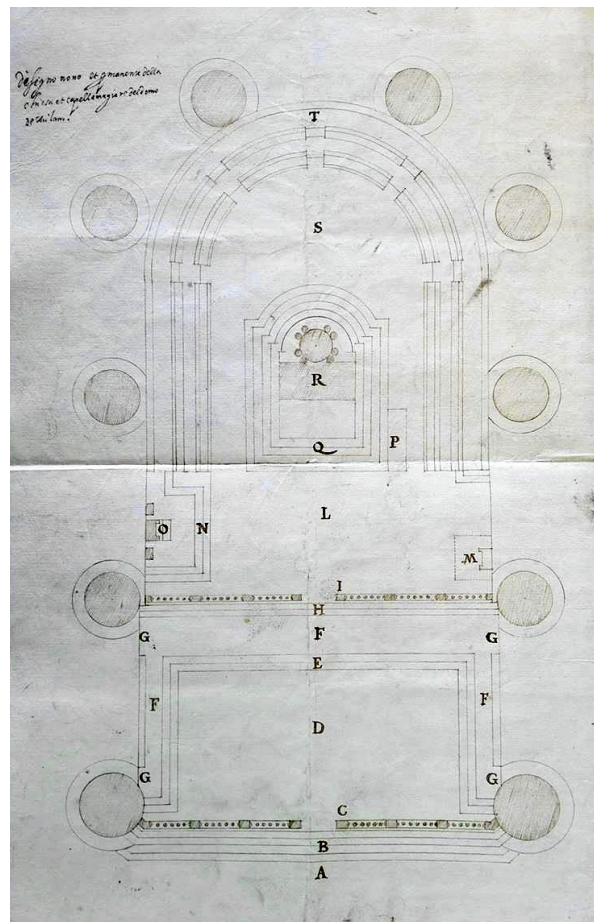


FIG. 8 TOLOMEO RINALDI, *Disegno novo et p[er]manente della Chiesa et capella maggiore del domo di Milano*, s. f., brown ink drawing on paper, 425 x 274 mm. Milan, Archivio di Stato di Milano, Uffici Regi, Parte Antica, Cartella 59.

services⁴¹ [FIG. 8]. Following the report on the occurrence, while those who had preceded the constable in the post had used to «pretend to ignore» the question; it seems that Juan Fernández de Velasco on the contrary was not prepared to tolerate it. A fact which, although it may appear just an anecdote, is far from it as it tells us about the political and symbolic role of architectural spaces, as well as the important work performed by architects and engineers, to design, report and conserve power not only in the field of military architecture, but also in civil and religious architecture, as all were spaces endowed with great political significance.

THE SIXTH CONSTABLE OF CASTILE, GABRIO BUSCA AND THE CIRCULATION OF SCIENTIFIC-TECHNICAL KNOWLEDGE

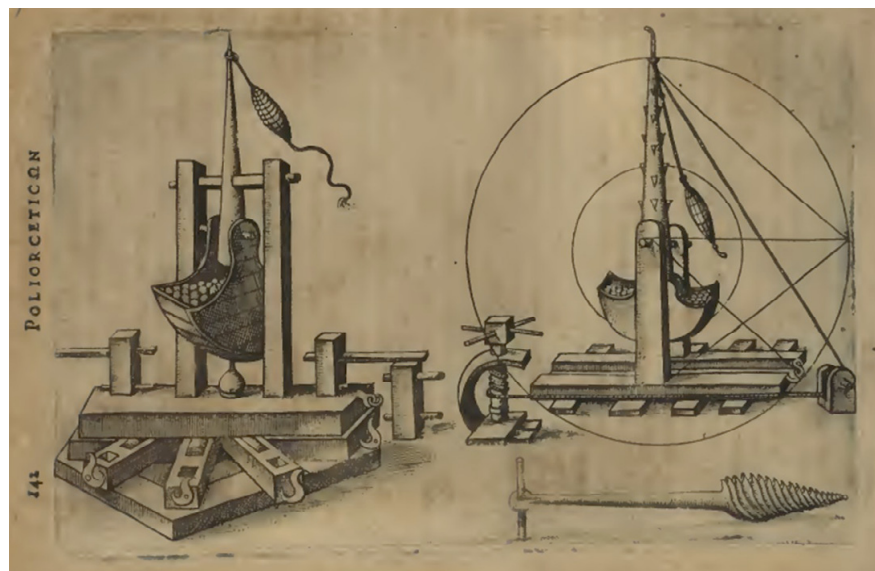
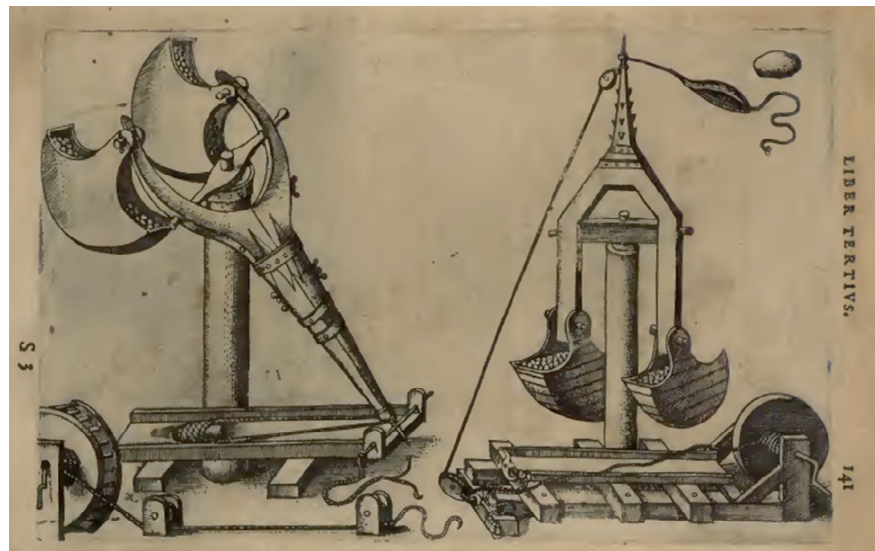
Gabrio Busca began to serve the constable when he was governor of Milan soon after the arrival of the Spanish nobleman in the Lombard capital. As mentioned, in January 1594 Busca formed part of a group of engineers charged with inspecting the castle in Milan by order of Juan Fernández de Velasco⁴². Two months later, Busca, Ferrari and Clarici went, on the orders of the constable, to another of the strategic enclaves of Lombardy – Cremona – to inspect and draw the city and its walls, and give their opinion on the way they should be fortified⁴³. In 1595, the matter had still not been resolved but it was mainly Clarici⁴⁴, who would be responsible for the reports and plans of the fortifications of Cremona sent from Milan to Madrid, given that at that moment Busca was accompanying the constable on the military expedition to Burgundy⁴⁵.

During the first months of 1597, Juan Fernández de Velasco would give Busca a very particular task. At that time, the Spanish nobleman was maintaining correspondence with the famous Belgian humanist Justus Lipsius who was in the middle of writing and re-editing his *Poliorteticon*⁴⁶. As can be deduced from the missives between the two personages, Juan Fernández de Velasco made some arrangements to help Lipsius obtain engravings of antique machines to illustrate his book and he commissioned Busca to copy the manuscript of Francesco di Giorgio Martini *De machina et architectura* which the Duke of Savoy kept in his library⁴⁷. Thus, after sending Busca to Turin to fulfil his mission, it is known that some of the designs were sent to Lipsius [FIG. 9 and 10], while the copy of the manuscript remained in the constable's library⁴⁸, where it is described in the inventory of 1608 as «francisco Jorji on Machine and architecture made by hand and unbound in parchment valued at forty reales»⁴⁹.

In the last years of the 16th century, Gabrio Busca held the post of «*ingegnere regio e camerale*» [royal household engineer] and as such, frequently appears documented as the supervisor of the works commissioned to different officials which were carried out in the royal-ducal palace in Milan during the constable's mandate⁵⁰. Later, in 1599, Busca was commissioned to design the decorative programme that was to be developed in the church of Santa Maria delle Grazie on the occasion of Philip II's funeral and which the engineer himself described in the report as «the grandest that have ever been held [...]»⁵¹.

Another of the entries recorded in the constable's library again offers us new and interesting information about his relation with this famous Lombard engineer. The volume

FIGS. 9 and 10
IVSTI LIPSI, *Poliorceticon sive de machinis tormentis telis. Libri quinque. Ad Historiarum lucem. Editio altera, correctæ & aucta*, 1599, Antwerp, Ex Officina Plantiniana, Apud Ioannem Moretum, pp. 138, 141 and 142. «Sequentes Figuras, Lector, Gabrius Busschius delineavit effinxit, ex ueteri libro, qui Vrbinatium Ducis, nunc Allobrogum est. Curauit, & benignè submisit, incomparabilis heros IOANNES VELASCIVS, Comes Stab. PP. Castella, Gubernator ditionis Mediolanensis, idémque per Italiam regia militiâ supremus prafectis. Illi gratia, tibi fructusesto». Engravings.



in question is described as «an apologia in excusation and in favour of the buildings of the Kingdom of Naples handwritten and bound in black cardboard valued at ten reales»⁵² and has been identified with the manuscript currently conserved in the National Library of Spain, written by the Spanish engineer Pedro Luis de Escrivá (Valencia, ca. 1480 - Naples, after 1538)⁵³.

The presence of this manuscript in Juan Fernández de Velasco's library is important for several reasons. Firstly, because as has been underlined in the recent studies on the figure of Escrivá, his *Apología* (1538) – of which only this handwritten copy is known – is perhaps the «most important technical treatise of the first period of modern fortifications» which has reached the present day together with that of Albrecht Dürer⁵⁴. This fact, in turn and by extension, tells us about the interests and concerns related to modern fortifications of the owner of this manuscript, the sixth Constable of Castile, at the beginning of the 17th century. Secondly, the presence of the *Apología* on Juan Fernández de Velasco's bookshelves makes it possible to draw some interesting conclusions about

the circulation of designs and ideas on the subject of military defence and fortifications at the end of the 16th and beginning of the 17th centuries. In relation to this question, it is necessary to remember that until well into the 19th century the main specialists on this subject like J. Almirante⁵⁵ considered the manuscript to be lost and had only heard about this work by Escrivá from an indirect source: the treatise *Della architettura militare* (1601) by Gabrio Busca⁵⁶. In this work the Milanese engineer commented the following on those who had been pioneers in the theory of fortifications:

«The first of all to write about this subject was Albrecht Dürer a German and after him a certain Gio. Francesco Scriua produced two Dialogues in the Spanish language in defence of the fortress built by him in Naples. Then Tartaglia also dealt with the subject in some of his dialogues on his new invention [...]»⁵⁷.

In spite of the fact that the reference that Busca provides on the treatise by Escrivá is laconic and rather imprecise (as he makes a mistake with the forename of the author), this mention has been very important for constructing the later critical fortune of the Valencian engineer and his work as an architectural theorist because, as mentioned before, this would be the only information confirming the existence of his treatise until the end of the 19th century when the work was located, identified and published for the first time by Mariátegui⁵⁸.

Regarding the diffusion and knowledge of the *Apología* in engineers in the modern era, the question arises if, as seems probable, the treatise by Escrivá was never printed and only the manuscript volume⁵⁹ that was part of Juan Fernández de Velasco's library was known, as to the degree of diffusion that it could have enjoyed, and by what means did Gabrio Busca himself get to know about it? The hypothesis we propose comes from relating Escrivá's manuscript in the library of the sixth Constable of Castile with the figure of the Milanese engineer Gabrio Busca, as this is most probably the only way that he could have heard of the manuscript to be able to later include this information in his treatise. This argument is supported by the fact that Escrivá's manuscript must have become part of the Castilian nobleman's library before 1600, as the *Apología* was not only recorded in the inventory of the library from 1608, but also in the *Index auctorum*, which historiography dates in about the year 1600⁶⁰. Therefore, during his first mandate in Milan (1592-1600) the constable already possessed Escrivá's manuscript and Busca would have been able to consult it⁶¹. In this regard, it is necessary to return to the data presented above, about the relation and services rendered by Busca to the governor during this period. We should remember the particular mission that the Castilian nobleman had entrusted to the Milanese engineer in 1597, which was none other than to go to Turin to be able to copy the manuscript by Francesco di Giorgio Martini which Charles Emmanuel I of Savoy possessed in his library and which would end up occupying a place among the drawers of the constable. In this context, it seems more than plausible that Busca in his work as a «copier» of manuscripts on military architecture, could have had access to the volumes that the constable possessed at that time, at the end of the 16th century when he was in Milan, and which probably included Escrivá's *Apología*.

If this is so, this type of practice and the circulation of scientific-technical knowledge leads to new questions. In this respect, the cultural context in which we are moving should be taken into account, where, as Páez de Castro commented in his well-known *Memorial* on books and the utility of the library intended for Philip II, one of the main advantages associated with libraries in that era was that they acted as a magnet for ingenious people, as wise men went to the place where they found the sources of their doctrine⁶². Thus, the question can be asked about the degree of access that Busca could have had to the constable's books and if the practice of allowing him to consult the copies in his library would have been extended to other «*yngenios*» [ingenious people] of the time. In relation to this, the words contained in the missive that the Milanese senator Giovanni Battista Sacco⁶³ sent to his friend Lipsius to which he attached the drawings of ancient machines by Busca following the constable's instructions, are significant. In this letter, Sacco commented with meticulous timeliness the working method of the «engineer-copier» at the same time as presenting a minutious description of the manuscript. Thus, the words of the Lombard senator suggest that he also had had first hand access to Di Giorgio's work⁶⁴. It therefore seems more than plausible that, as well as the engineer Busca and the senator Sacco, other important personages from the Lombard cultural scene could have consulted the books on machines, architecture and military art belonging to the constable during his period in Milan.

All that has been stated above confirms the importance and plurality of the relations which were established between power and engineering at the end of the 16th and beginning of the 17th centuries. In the case of Busca and the constable, even when Juan Fernández de Velasco had already left Milan in 1600, Busca – perhaps as a sign of gratitude and fidelity – «offered» to the man who had been his «protector» the treatise where he made reference to Escrivá's *Apología: Della architettura militare*; in the dedication addressed to the constable he made it clear that he knew of the existence of his magnificent library.

Moreover, all this reveals the profound interest that Juan Fernández de Velasco had in engineering. Interests that were not only manifest in his promotion of architecture, fortifications and their devices, but also in the fact that he was a «practitioner» in the subject, going so far as to personally draw designs for the stronghold of Milan as confirmed by some of the entries in his library like «Discourse on the stronghold of Milan and designs bound in parchment the tables written and drawn by the constable my lord fifty reales»⁶⁵. Busca, therefore, was not exaggerating in his dedication when he praised the constable's «military caution» and «excellent qualities related to war and the conservation of states», as Juan Fernández de Velasco successfully cultivated these sciences.

NOTES

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1. Studies on Gabrio Busca have mainly concentrated on his facet as a writer of treatises: COPPA, 1999, 2000 and 2004; FIOR and VIGANÒ, 2005. More recently the work of this engineer has been analysed in the service firstly of the Duke of Savoy and later of the Spanish crown in Lombardy, in the framework of a complex geopolitical scenario characterised by the changing alliances and relations between Savoyard Piedmont and the State of Milan: DAMERI, 2016.
 2. BUSCA, 1601, s. f. In the original: «Et si ancora per non incorrere nell'errore, che Archimede soleua notare ne' scrittori, i quali non dedicassero l'opere loro à persone intendenti di quelle professioni. Percioche qual Principe è hoggidi, che ne per intelligenza, & intera cognitione; ne per isperienza, & vso in tutte le parti della Militar Prudenza, & de' gouerni de' Stati possa essere anteposta à V[ost]ra Eccellenza? La quale per singolare, & Eccellentiss[imo] dono d'Iddio, è dotata di tante rare, & eccellenti qualitatì [...] in guisa che non solo nelle professioni appartenenti alla guerra, alla conseruatione, & gouerno de' Stati è singolarissima, & Eccellentissima: ma cosa che suole essere molto rara ne' Principi con singolar felicità, & prontezza d'ingegno dotata della cognitione di tute le Scienze della Matematica, & della Filosofia, & di tutte le più polite, & belle lettere [...] Rende di cio chiarissima testimonianza quella tanto ricca copiosa, & ornatissima libreria, ripiena di quasi innumerabili volumi in tutte le Scienze, & in tutte le arti liberali, che con grandissima cura, & diligenza, non hauendo risguardo à spesa ne à fatica, hà da tutte le parti dell'Europa, & d'altre Prouincie ridotti insieme; che empie di merauiglia a chiunque la vedde [...]».
 3. Evidence that the fame of Juan Fernández de Velasco as a man of great ingenuity had transcended frontiers is shown in the fact that the court of the Medici sent him what was the most innovative instrument of the era: Galileo's telescope. For more on this topic see: VÁZQUEZ MANASSERO, 2018, pp. 144-150.
 4. Among the main studies related to the House of Velasco which have tackled the analysis of the artistic collections of the family, the following should be highlighted: ZALAMA and ANDRÉS, 2002; ALONSO RUIZ, DE CARLOS VARONA, PEREDA, 2005. The study of some specific aspects of the profile of the sixth Constable of Castile as a collector, as well as his role as an intermediary in royal artistic commissions or his taste for classical antiquity can be found respectively in: DE CARLOS VARONA, 2003 and 2005. The most recent and complete analysis of the figure of Juan Fernández de Velasco as a collector and protector of the arts in that by: MONTERO DELGADO, J. *et al.*, 2014. Regarding the vast and outstanding library put together by Juan Fernández de Velasco, this has been one of the aspects which has attracted the most attention in historiography. A first approach to his library, centred on the identification of the manuscripts collected by the sixth Constable of Castile which are currently housed in the National Library in Spain (BNE) can be found in: FERNÁNDEZ POMAR, 1967 and ANDRÉS, 1980. The taste for classical antiquity in the framework of the library and collections of Juan Fernández de Velasco has been studied by: DE CARLOS VARONA, 2005. LÓPEZ-VIDRIERO ABELLÓ, 2008 provides a comparative analysis of the libraries put together by the Count of Gondomar and by the sixth Constable of Castile centred on the presence of the Italian books collected by both noblemen. More recently, MONTERO DELGADO *et al.*, 2014, pp. 179-263, have devoted a specific chapter to his library, setting it in the cultural framework of the era of which they offer a general overview.
 5. MONTERO DELGADO *et al.*, 2014, p. 100.
 6. *Index auctorum* Biblioteca Nacional de España (BNE), Mss. 7840. On this index see: DE CARLOS VARONA, 2005, p. 239; MONTERO DELGADO *et al.*, 2014, p. 200 and p. 209.
 7. Archivo Histórico de Protocolos de Madrid (AHPM), Prot. 28450.
 8. AHPM, Prot. 24851. To the two inventories mentioned and well-known in historiography, we should add the existence of another copy of the *postmortem* inventory of 1613 conserved in the Archivo Histórico Nacional - Sección Nobleza, Frías, C. 620, D. 4.
 9. AHPM, Prot. 24850, f. 262r. In the original: «Vn Estrumento de Bronce dorado que Sirbe de tomar El Altura del Sol, fortificaciones Y otras Cosas con armas de Velasco y de la çiudad de Milan».
 10. *Ibid.*, f. 435r.
 11. BELLUZZI, 1598, p. 42. On the work of this military architect, see: LAMBERINI, 2007. In the original: «misurar altezze larghezze profundità, & ancor se fosti in lochi doue ui fusse bisogno di saper che hora fosse siando in piano».
 12. AHPM, Prot. 24850, f. 260r. and ss. In the original: «aforrados».
 13. *Ibid.*, ff. 432v.-439v.
 14. *Ibid.*, Upper drawer XXVI, f. 437r. and f. 438v.
 15. *Ibid.*, f. 438 r. and f. 440 v. The last of the volumes mentioned probably corresponds to the Salamanca edition of 1516: FRON-TINO, 1516.
 16. *Ibid.*, f. 437r.
 17. *Ibid.*, ff. 435r.-v., 436r. In the original: «Dos tomos de francisco marquez de fortificacione et Vno escripto a la mano y el otro con estarpas finas', 'Examen de Artilleria escripto alamanos con algunas estarpas alamanos encuadernado en carton», «Proporçion y vso de la artilleria con Unas tablas hechas a la mano encuadernado en pergamino», «ocho libros Los quatro de Ellos contienen Las fortificaciones de nauegaciones plantas dellos y los quatro escritos de mano que tratan de lo que contienen las cifras y pinturas de los quatro primeros».
 18. ALVARADO, ca. 1592-1598, BNE, Mss. 8895. This manuscript conserved in the BNE was identified with the entry corresponding to the constable's library by: ANDRÉS, 1980, p. 17. In the original: «Alvaradina la qual contiene en si mui necesarios auisos de las cosas tocantes al Artilleria».
 19. Luis Collado was included in the list of salaries corresponding to the «gentilhuomini di S.M.tà che seruono presso la persona u[ost]ra, officiali et altri particolari ell'ess[er]ci[ti]o per loro paghe» [gentlemen who serve your majesty, officials and other individuals from the army for their payment] in the State of Milan in the year 1591 recorded as «Ad Luygi Cogliate Ingegnero del-

- l'ess[erci]to – v. ti 20*: Archivio di Stato di Milano, Registri delle Cancellerie dello Stato e di Magistrature diverse (ASMi-RCSMD), Serie XXII, Mandati, n° 41, ff. 53r-54v.
20. ALONSO RUIZ, 2005, pp. 180-186.
 21. *Ibid.*, p. 183.
 22. LASO BALLESTEROS, 1991, p. 85; VÁZQUEZ MANASSERO, 2018a.
 23. ALONSO RUIZ, 2005, p. 183-186.
 24. For an overall vision of the different socio-political aspects of the Lombard territory during Spanish domination, see: PISSAVINO and SIGNOROTTO, 1995; ALVAREZ-OSSORIO ALVARIÑO, 2001. The role of the state of Milan as a geopolitical enclave of vital strategic importance in the framework of the interests of the Spanish monarchy is analysed by: PISSAVINO, 1995 and FERNÁNDEZ AL-BADALEJO, 1995.
 25. The experience both in the political and the military context as determinant factors in the choice of Ferrante Gonzaga as governor of Lombardy has been pointed out by: MOZZARELLI, 1992, p. 121 and SCOTTI, 2008, p. 29 and ss.
 26. On the political and military mandate of the Marquis of Leganés in Milan, see: PÉREZ PRECIADO, 2010, pp. 283-405.
 27. ASMi, Uffici Regi, Parte antica, Cartella 59, s. f.: «Istruzzion de lo que Vos el Ill[ust]re don Juan de Velasco Contesta[bl]e de Castilla [...] mi Primo haueis de hazer, y orden che haueis de guardar en el exercito y administracion del cargo que hos he proueydo de mi Gouerna[d]or y Capitan g[ener]al en el Estado y dominio de Milan». [Instruction of what your grace Juan de Velasco, constable of Castile [...] my cousin has to do, and order that you have to keep in the execution and administration of the post I have assigned you as my governor and captain general of the state and dominion of Milan].
 28. VIGANÒ, 2004, pp. 100-101.
 29. This notice was published by: *Ibid.*, p. 101, footnote 62. In the original: «Giouan. Batt[ist]a Mayno il quale ha il Carrico della fabricha del Castello di Milano che se fa nel baluardo detto del signor Condestable, con la sua Contrascarpa della fossa [...]».
 30. Biblioteca Ambrosiana di Milano (BAMi), Cod. S 141 Sup., ff. 26r-31v. In the original: «dalla parte della tenaglia di detto Castello di Milano, chiamato il Baluardo della tenaglia ò sia Acugna [...]».
 31. *Ibid.*, ff. 26r-26v. In the original: «Primo, che l'incantatore sia tenuto far fabricare uno Baluardo, & sua Cortina al detto Castelo uerso detta Tenaglia che si uà disfacendo, nell'istesso luogo, & della grandezza, e qualità che gli sarà in proprio fatto designato dalli Agenti & ingeneri della Reg[ia] Cam[era] Che habbi da corrispondere con quello fabricato di nouo chiamato Velasco, e A l'altro del Carminette, cominciandosi à fondare la facciata con suo trauerso dalla parte uerso il Baluardo Velasco, & alzandolo sino che resti in difesa [...]».
 32. *Ibid.*, ff. 34r-35v. The awarding of this work to this entrepreneur is referred to by: VIGANÒ, 2004, p. 100, note 57.
 33. SCOTTI, 2005, pp. 201-202.
 34. A. Scotti (2005, pp. 203-204), mentions as one of the few graphic sources for the reconstruction of this period in the building history of the castle, a drawing attributed to Giovan Battista Clarici and for which this author proposes a possible four-handed execution by this engineer and Francesco Pirovano who was also an engineer. The drawing is conserved in the Archivio Storico Civico - Biblioteca Trivulziana di Milano (ASCBTMI), Fondo Cartografico, Cartella 5/6.
 35. The bastion called «Albuquerque» corresponded to the noble title of Gabriel de la Cueva, Duke of Albuquerque and governor of Milan from 1564-1571; the «Padiglia» bastion to the name of the governor Sancho de Guevara y Padilla (1580-1583); the «Velasco» bastion to the governor Juan Fernández de Velasco (1592-1600) or the «Acuña» bastion to the person who was governor of the castle of Milan at least in 1598.
 36. On the citadels as physical but also ideological means of control see: CÁMARA MUÑOZ, 1998, pp. 158-173; MARAVALL, 2008, pp. 112-113.
 37. On the subject of this gallery of portraits see: MALAGUZZI VALERI, 1901, pp. 327-335; BORA, 1998, especially p. 50; ALVAREZ-OSSORIO ALVARIÑO, 2001, pp. 15-24.
 38. In the original: «di pietre, et legname». Among these works by Prata was a decoration on the main door or «hauere disfatto, et rifatto gli tetti sopra la quadra auanti la capella magg[io]re, sopra il salono delle imprese, sora il luogo della guardia de Todeschi, sopra la scala maggiore [...]» [to have taken down and put up the ceilings over the square in front of the main chapel, over the hall of the imprese, over the place for the German guard, over the main staircase [...]], ASMi-RCSMD, Serie XII, Mandati, ff. 29r-v.
 39. *Ibid.*, f. 41v.
 40. On the discrepancies between the two powers in Lombardy – Church and State – see: BORROMEO, 1981; MOZZARELLI, 1995, especially pp. 432 and ss.
 41. ASMi, Uffici Regi, Parte antica, Cartella 59, s. f.: In the original: «Ragguagliasi Sua Maestà delle nuove differenze insorte tra il Cardinale Borromeo Arcivescovo di Milano, e il Sig.^r Governatore di Milano circa l'assento della Cortina nella Metropolitana in occasione delle pubbl[ic]he e solenni funzioni» [Be informed, your majesty, about the new conflicts that have arisen between Cardinal Borromeo archbishop of Milan and the governor of Milan about the place near the curtain in the metropolitan cathedral on occasions of public and solemn functions].
 42. VIGANÒ, 2004, pp. 100-101.
 43. ASMi, Autografi 83, fasc. 9, s. f.
 44. Archivo General de Simancas (AGS), Secretaría de Estado, Leg. 1277, 71. On the plans of Clarici and the opinions about these drawings that Tiburzio Spanocchi gave from the Court, see: CÁMARA MUÑOZ, 1998, pp. 162-165.
 45. BUSCA, 1601, s. f.
 46. The letters between Juan Fernández de Velasco and Lipsius have been transcribed and annotated by: RAMÍREZ, 1967.
 47. Promis (1871, p. 529) repeated this commission for Busca from the statements that Lipsius himself included in his *Poliortecicon* (reed. 1598). De Carlos Varona (2005, pp. 212-213) analyses the content of the missives between the constable and the Belgian humanist where he refers to this particular commission of the Spanish nobleman to Gabrio Busca. A good summary of this correspondence can be found in: MONTERO DELGADO *et al.*, 2014, pp. 264-268.
 48. DE CARLOS VARONA, 2005, pp. 212-213. The existence of this manuscript in the constable's library had been mentioned previously: BUSTAMANTE and MARÍAS, 1985, p. 125.

49. AHPM, Prot. 24850, Lower drawer XXVI, f. 435 v. In the original: «*françasco Jorji de Maquina y arquitectura hecho alamano dis enquadernado enpergamino tassado en quarenta R[eal]es*».
50. For example, on 16th December 1598, the engineers Gabrio Busca and Tolomeo (Rinaldi?) supervised and assessed the masonry and the «*fontana del Conte di Haro*» [fountain of the Count of Haro] made by Valerio Imperiale «fontanaro», the payment for which was ratified by the constable: ASMi-RCSMD, Serie XXII, Mandati, Núm. 42, f. 26r.
51. ASMi, Potenze Sovrane (post. 1535), Pezzo 4, s. f.: «*Rellatione del funerale da farsi alle Gratie. [...] [Gabrio] Buscha*». In the original: «*il maggiore di quanto ne siano mai stati [...]*» An overall vision of the festivals and decorative machines organised for this reason in Lombardy during the 16th and 17th centuries is presented in: VARALLO, 2004. This author refers briefly to the list drawn up by Busca: *Ibid.*, p. 76.
52. AHPM, Prot. 24850, Lower drawer XXVI, f. 437r. In the original: «*apoloxia en excusación y fabor de las fabricas del Reyno de napoles escrito alamano enquadernado en carton negro tas[a]do En diez R[eal]es*».
53. ANDRÉS, 1980, p. 17; ESCRIVÁ, 1538, Madrid, BNE, Mss. 2852.
54. SÁNCHEZ-GIJÓN, 2000a; COBOS-GUERRA, 2014, pp. 26-27.
55. ALMIRANTE, 1876, p. 269.
56. BUSCA, 1601.
57. *Ibid.*, Lib. I, Cap. XXXIII, pp. 123-124. In the original: «*Scrisse prima di tutti in questa materia Alberto Durero Alemano appresso di lui vn Gio. Francesco Scriua, messe in luce due Dialoghi in lingua Spagnuola in difesa della fortezza da lui fatta à Napoli. Nè tratto poi il Tartaglia, in alcuni dialoghi della sua nuoua inuentione [...]*».
58. MARIÁTEGUI, 1878. More recently the *Apología* has been studied, annotated and commented on in: SÁNCHEZ-GIJÓN, 2000.
59. COBOS-GUERRA, 2014, p. 27.
60. MONTERO DELGADO *et al.*, 2014, p. 200. The entry on the manuscript of the comendador Escrivá appears described with great accuracy in the *Index auctorum* so that the correspondence with the work being referred to is unequivocal: «*Apologia en execution, y fabor de las fabricas del Reyno de Napoles del Comendador Scriua. De mano. Dedicada a Don P.º de Toledo. Virrey de Nap[ol]es. 4.º*» [Apologia in execution, and in favour of the constructions of the Kingdom of Naples by the comendador Scriva. Handwritten. Dedicated to Don Pedro de Toledo, viceroy of Naples] (BNE, Mss. 7840, f. 2r.).
61. It is more complicated to determine the place and/or the means by which Escrivá's manuscript came into Juan Fernández de Velasco's library, although it is more than plausible that it took place in Italy, perhaps during the constable's stay in Naples in the 1580's. In this regard, it is known that the *Apología* was not among the books possessed by the Viceroy Pedro de Toledo, Escrivá's protector: HERNANDO SÁNCHEZ, 1988, pp. 20-21. Another possibility is that Juan Fernández de Velasco acquired the manuscript in Lombardy, as both Escrivá himself like Luis Pizaño – an artilleryman close to the commander – worked in those territories and, perhaps, could have taken the work there with him: COBOS GUERRA, 2000, pp. 187-188.
62. PÁEZ DE CASTRO, 1883, p. 170.
63. Lipsius kept up a close friendship with Sacco, an essential figure as an intermediary between the Belgian humanist and the constable, as he was the one who made the governor of Milan aware of Lipsius's need to have documents on ancient machines for his work: RAMÍREZ, 1967, p. 193, Letter 45. Juan Bautista Sacco to Justus Lipsius. Milan 27th January 1597.
64. *Ibid.*, pp. 213-214, Letter 50. Juan Bautista Sacco to Justus Lipsius. Milan, 15th May 1597.
65. AHPM, Prot. 24850, Lower drawer XXVI, f. 435v. In the original: «*Discurso de la plaça del Estado de millan y disinios enquadernado enpergam[in]o las tablas alamano en hecho y traçado por El condest[abl]e mi s[eñ]or cing[uen]ta R[eal]es*».

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«and of the profession of fortifying she
understands the rules and terms so well
that she can make a judgment of it».
Christine of France, Duchess of Savoy
and Carlo di Castellamonte
«Superintendent of the Fortresses»

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FROM PARIS TO TURIN. A YOUNG PRINCESS

Carlo Emanuele I created a diplomatic network and, in order to include the Duchy of Savoy in his European strategy, Cristina of Bourbon, sister of Louis XIII, daughter of Henri IV King of France and of Maria de' Medici, was given in marriage to the young Vittorio Amedeo¹. The Franco-Savoy alliance was thereby strengthened, orienting the Duchy's policy towards a more explicitly anti-Spanish line. The wedding was celebrated in the chapel of the Louvre on 10 February 1619, the birthday of thirteen-year-old Cristina.

Cristina arrived in Turin in spring 1620: she was a young lady whose future was bent towards international politics and the need to seek a further link between the two neighbouring powers. For the occasion of Cristina's arrival in Turin, the city designed by Ascanio Vitozzi and by Carlo di Castellamonte came to life: the palaces became a backdrop animated by allegorical statues, the gate of the «new city» was a monumental entrance to the southern extension, inaugurated for that occasion; at the most ancient core of the Roman-founded grid system, the first seventeenth-century enlargement, to the south, was hinged around the building fabric which had been moulded mainly during the lengthy Middle Ages. Today's Piazza San Carlo, then known as the «great Castellamonte theatre», was designed as a uniform system and was the most important space in the expansion; it also represented the fulcrum of a new urban entity, reflecting the authority and continuity of the Savoy dynasty. In the seventeenth-century design, twin churches,



FIG. 1 Vault of the Valentino Room. Valentino Castle, Turin, Cristina of France, dressed as Flora, goddess of Spring.

San Carlo and Santa Cristina, were built like two stage wings to frame the entrance of the southern section of Contrada Nuova (now Via Roma). The convent annexed to Santa Cristina, now demolished, was home to the Discalced Carmelite nuns, summoned to Turin by Cristina who chose their monastery for her spiritual retreats. Carlo di Castellamonte, superintendent of all the ducal sites, was the architect of the urban project which was based on Vitozzi's plan.

THE PALACE OF «MADAMA REALE»

Carlo Emanuele I gave the «little river house» of Valentino², still with its sixteenth-century *facies*, as a wedding gift to his young daughter-in-law Cristina. On her initiative, it was transformed in two different stages over the space of thirty years into a baroque palace based on French models chosen by the princess and used as the seat of court receptions, meetings and diplomatic treaties.

The expansion and remodelling work began in 1620 according to the design of Carlo di Castellamonte, later taken over by his son Amedeo, within the context of a dynastic project developed by court architects. The restructuring of the Valentino formed part of a broader design, at territorial scale, which in a single complex embraced the residence, the river and the adjacent hills. As soon as she gained possession of the villa and the surrounding area, Cristina extended the limits of the property beyond the River Po into the area which is now San Vito, purchasing a vineyard with a house which she had rebuilt at the same time as Valentino (1622). Renovation work on the pre-existing building to adapt it as a residence suited to the Duchess's tastes began in 1622 and continued until 1652³.



FIG. 2 War Room, Valentino Castle, Turin. Detail of stucco and fresco decoration.

The seventeenth-century renovation of the Valentino palace was split into two phases: from 1620-1623 the wing parallel to the river was defined, flanked by two towers; after 1645 the two lower pavilions were created, linked to the main wing by two porticoed and terraced tunnels on just one above-ground floor, and the closing hemicycle of the courtyard. Valentino was designed according to the French *pavillon-système*, closely related from a distributive point of view with the river: the main view, towards the hill, was linked



FIG. 3 Negotiations Room, Valentino Castle, Turin. Detail of stucco and fresco decoration.



FIG. 4 Room of Magnificence Valentino Castle, Turin. Detail of stucco and fresco decoration.

with the large courtyard by an atrium whose space was punctuated by six Doric columns holding up the large hall on the main floor. At the time, access was gained to the atrium from the river by two ramps, leading to the «imperial staircase» rising up to the upper loggia and the hall.

In 1630, following the death of his father, Vittorio Amedeo I ascended to the Savoy throne with Cristina at his side; after Ludovica (1629), the male heir Francesco Giacinto was born in 1632 and, two years later, Carlo Emanuele. Since the fifteenth

century, the Savoy family had aspired to have a royal title and they claimed a right to the Kingdom of Cyprus; on the occasion of the birth of her firstborn, Cristina assumed the title of «*Madame Royale*», «*Madama Reale*».

In 1637, the Duke's sudden and, to some, suspicious death led Cristina to assume the role of Regent as guardian to Francesco Giacinto, just five years old at the time. A Frenchwoman on the Savoy throne was certainly not seen well, particularly so for the deceased duke's brothers, the «brothers-in-law» Prince Tommaso and Cardinal Maurizio, protagonists of the pro-Spanish insurgent faction that had been spreading its influence for years in the Turin court. The situation worsened even further when, in 1638, little Francesco Giacinto also died; Carlo Emanuele at just four years old and sick with smallpox, seemed too frail to guarantee the dynasty's succession. The danger of the Duchy being transformed into a French province and losing its autonomy accentuated the friction between the pro-Spanish «princes» and the pro-French «Madame» and caused the outbreak of the civil war, a replica in the Piedmont territories of the clashes that had afflicted Europe for decades with the French and Spanish on opposite sides.

At the Valentino, her favoured residence, Cristina surrounded herself with advisors and collaborators, including Filippo d'Agliè and Carlo di Castellamonte; here, she received ambassadors and illustrious visitors and administered her power, which gave the suburban residence great symbolic value. It was no coincidence that Cristina would meet the mathematician Vertova at the Valentino in the days when she had to stay by the sickbed of little Francesco Giacinto, who was seriously ill, and later died on 4 October 1638.



FIG. 5 GIOVENALE BOETTO, *Vittorio Amedeo I e Carlo di Castellamonte sovrintendono alla nuove fortificazioni di Torino*, 1633, engraving. Turin, Archivio Storico della Città di Torino, Collezione Simeom, D 142.

WAR, DIPLOMACY, ARCHITECTURE

Despite her young age when she married Vittorio Amedeo, Cristina soon became the central character of that period of the Duchy and until the day of her death her presence, at times invasive, would prevent her son Carlo Emanuele II from being able to govern autonomously. She was subjected to growing pressures from Cardinal Richelieu who tried to use her as a helpless pawn in his expansionist strategies towards the Italian peninsula. She suffered an intense campaign to discredit her mounted by the Spanish, and also by the French allies who accused her of excessive autonomy. Madama Reale was described in many chronicles as a woman of character, an Amazon princess, for some guilty of dreadful crimes such as the murder of her husband, the murder of little Francesco Giacinto, and even of being a nymphomaniac⁴. What emerges is the profile of a young, resolute woman, too modern and uninhibited for the Turin court, who tenaciously pursued her goals without disdaining unscrupulous alliances, and surrounding herself with advisors who were sometimes of unusual nature⁵.

Diplomacy, war and the art of fortification were the tools with which she tenaciously retained power and eventually ceded it (as late as was possible) to the hands of her son. The rooms at the Valentino told of the dynasty's history, its most recent chronicles, its aspirations, warnings for those who sought to reign: through the «white» apartment, the

War Room, the Negotiations Room and the Room of (architectural) Magnificence, the stories that unfolded among the stuccos and frescoes were a sort of memento for the young future duke, but, above, all, perhaps for Cristina.

In fact, while the expansion and architectural redefinition works were proceeding, Cristina of France ordered the decoration of the two apartments on the main floor, which had an identical number of rooms and the same layout, but different decoration⁶. Sump-
tuous decoration in stuccoes and paintings was designed, accompanied by precious leather wall coverings. The work began in the lounge and from the apartment facing south, towards Moncalieri, consisting of five rooms and a *cabinet*. The task was initially entrusted to the Bianchi family, stucco artists and painters originally from Lugano who already worked at other Savoy sites. Isidoro Bianchi worked assiduously from 1633 to 1642 flanked by his sons Pompeo and Francesco. The theme identified for each room was presented in the central fresco of the vault and taken up and illustrated in the frescoes, stuccos and frieze section. While the Bianchis worked in Cristina's entertaining apartment, the rooms facing north, used since 1638 by the young crown prince Carlo Emanuele, were decorated firstly by the Bianchis and then by other artists belonging to families of Lugano entrepreneurs, who were also painters and sculptors: the Casella and the Recchi families (between 1633 and 1646). The decorative cycle is preserved in its unity although some rooms underwent nineteenth-century modifications; the overall programme of decoration and the choice of individual scenes were designed by Count Filippo di San Martino d'Agliè, a cultured and refined man, advisor and favourite of Cristina. In the choice of themes of the rooms overlooking the Po in the south apartment, Filippo was inspired by Ovid's poem *Metamorphoses*: in the Planet, Rose and Green rooms these legends are retraced; in some of the frescoes Cristina is represented in mythological garments.

The rooms of the white apartment, towards the north, instead recall the foundations of the education of a young duke: the War Room, with brocade wallpaper as early as 1644, was probably the last room decorated by the Bianchi family at Valentino⁷. And from that room on, stucco decoration in the Valentino apartments becomes more evident than in the rooms which had been decorated previously, connecting iconographically to the themes in a more precise way. The modelled exuberance of the pair of cherubs joyously holding war emblems is a decidedly new feature, taken up again in the stuccoed cornices which develop motifs of military inspiration, with armour, shields, helmets and panoplies. The frescoes immortalise episodes of the then recent wars of the Monferrato (1628-1631), which concluded with the Treaty of Cherasco allowing the Savoy to further extend their territories to the south. The doors of the room were created by Alessandro Casella, and on them, in the *tondi*, are the frescoed portraits of Vittorio Amedeo I and Cristina of France, which have reappeared now after the latest restorations: the parents almost seem to be watching over the education of their young son.

In the Negotiations Room, the stucco decoration is again by Alessandro Casella and is characterised by the rich plot of telamons, cherubs and angels with plant-like tails. The central fresco, created by the Recchi family, alludes through a series of allegorical figures, to the theme of Peace as a foundation for public happiness. And Peace, obtained and cultivated through alliances and marriages, is celebrated in the pictures below: the representatives of the Savoy state negotiate with the most prestigious European sover-

eigns, from the King of France to the Kings of Spain and England, the Hapsburg Emperor and oriental Sultans. The panels painted by the Recchi include the scene depicting Cristina of France dressed in widow's weeds meeting Prince Tommaso of Savoy-Carignano and his wife Maria de Borbone-Soissons at the end of the war of the «brothers-in-law» (1642).

In the Room of Magnificence, monumental buildings and urban views are depicted, anticipating *Theatrum Sabaudiae* in 1682, and commissioned by Carlo Emanuele I, Vittorio Amedeo I and Cristina. The panels show: the Ducal Palace and the Castle Square, the Vitozzi church of Santa Maria al Monte dei Cappuccini and the new palace in the city adjacent to the cathedral to be allocated to the crown prince, designed by Vittorio Amedeo I. In sequence on the west wall there are three panels: one showing a view from the garden of the late sixteenth-century suburban residence of Mirafiori which underwent expansion projects by order of the new duke, later interrupted on his death in 1637; a panel with Via Po (before its renovation with the homogeneous porticoes designed by Amedeo di Castellamonte), dominated by the Chiesa dei Padri Minimi by San Francesco da Paola, which Cristina of France had built in 1632; finally, a panel depicting the monumental complex of Porta Nuova, built by Carlo di Castellamonte in 1620 at the extreme end of Turin's extension to the south. In addition to the city scenes, there were also views of the surrounding areas, showing buildings ordered by the duke in protection of religious orders; churches and isolated mountain hermitages; the duke's fortifications of the cities on the plain: the town of Trino can be seen, with its quadrangular citadel, alongside Asti with its double city walls and, (in all probability) Breme, which was fortified by Vittorio Amedeo I in 1635.

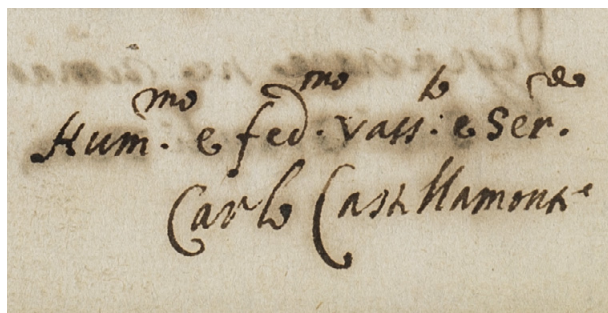


FIG. 6 Signature of Carlo di Castellamonte, preface of the manuscript *Le trinciere*. Turin, Musei Civici, Torino, 2698/DS.

CARLO DI CASTELLAMONTE AND CRISTINA OF FRANCE

«And Count Carlo was the first engineer of that state, as he dealt with all fortifications in person or with his advice, which in twelve parts of that state were being created as the Madama Reale told me, and he was a pupil of Monsieur Zanfrone, and Minister of the former Duke Carlo Emanuele, who did not create anything other than fortresses. An engineer in theory, and in practice, who built more fortresses than I created abundances of opinions and who on that occasion, and on every other greater occasion, served and would serve with every spirit of Religion»⁸.

So wrote Giovanni Battista Vertova, in his «Italian» travel diary, introducing the figure of Carlo di Castellamonte and attributing to him a role that subsequent historiography was perhaps unable to recognise⁹, emphasising the great experience in the field of fortified architecture which led to him supervising many works of the Duchy of Savoy.

Carlo di Castellamonte (1571-1640) was the engineer who most faithfully served the Savoy in the first half of the seventeenth-century; he was succeeded by his son Amedeo. The Castellamontes were part of a solid Savoy tradition that saw many military engineers called to the service of the Duchy: after the transfer of the capital from Chambery to Turin (1563), the first goal of Emanuele Filiberto and his son Carlo Emanuele I was to transform the small town at the margins of the Duchy into a solid and impregnable capital city. Firstly, it was essential to make the city impregnable by equipping it with a «modern» fortified circuit and a citadel. Emanuele Filiberto called military engineers to work alongside him with whom he had close personal relationships; among others, Francesco Paciotto, Ascanio Vitozzi and Gabrio Busca were the best in the service of the Duke. The history of urban planning in Turin and the surrounding territory was thereby based on a close political and cultural connection between the Duke and the military engineer, between a city forced to undergo the demands of war and peace and a capital city which had to dress in monumental attire. The programme that oversaw the urban planning of the city for over two centuries was governed by simple requirements: to defend the city and make it more «beautiful» and monumental. Carlo di Castellamonte began his activity with the advent of the seventeenth-century and very soon went on to play a role of primary importance within the state ranks. He was also entrusted with the task of training the next generation of military engineers in the service of the Savoy.

Carlo di Castellamonte belonged to the aristocratic class and this, in all likelihood, was of benefit to him in his future relationships with members of the Savoy family; a stay in Rome allowed him to enter into contact with a fertile cultural environment which stimulated him in his subsequent projects. He worked with Ascanio Vitozzi, and he took over from him in the role of architect to the Duke when Vitozzi died; his work in the field of military architecture developed seamlessly from the first decade of the seventeenth century, and acquired greater consistency from the 1630s on. He operated in a period marked by sudden changes of alliance; in fact, in 1610 – after the second half of the sixteenth century when the Savoy was allied with Spain – Carlo Emanuele I's alliance with France became increasingly solid, as he hoped to obtain the state of Milan as a reward for an eventual victory on the European «chessboard». However, in actual fact Carlo Emanuele I was blinded by ambition and made muddled moves: «into the fray became the motto of the young prince»¹⁰. He did not realise he was being used by France to keep Spain engaged in the Italian peninsula and to distract it from other operations in Europe. In the service of Carlo Emanuele I the military engineer Carlo di Castellamonte had to continuously reorganise the territorial defensive system based upon the continuous alterations of alliances and strategies.

It was Castellamonte who implemented Ascanio Vitozzi's grandiose plan which involved completely transforming the city from a quadrangular city into a «modern» fortified city. He dealt with the works at the bulwarks of the city¹¹. He designed projects for the fortifications of Verrua, Nizza Marittima, Avigliana (a project strongly criticised by Morello), Demonte, Ottaggio and Vercelli. The political order changed again with the wars of Monferrato (1628-1631); Carlo Emanuele I was allied with Spain against the alliance between France and Venice: the Treaty of Cherasco (1631) led to the annexation of seventy-four lands of Monferrato including Alba and Trino, and drew attention towards

the east¹². All this involved a policy of constant rearrangement of the structure of fortifications and boundaries; this is the reason why the military engineer's attention, after being focused on the fortifications in the Alps, had to move east to the boundary with the state of Milan. The reorganisation of the defensive system at territorial scale also led to the establishment of the Buildings and Fortifications Council (in 1632), the body responsible for control, planning and strengthening of the Duchy's defensive and infrastructural system.

Vittorio Amedeo I decided on the construction of a new citadel at Asti (1636) the design of which now seems to be of uncertain attribution: the structure, a square system with angular bastions and four advanced intermediate bastions, was positioned to the south-east of the city and immediately aroused much perplexity. Deemed inadequate for defence, with an incorrect positioning, it was subject to various appraisals until its complete demolition in 1679. Castellamonte's role in the project is still uncertain; it is certain that in 1637 the engineer was engaged in drafting a detailed report on the status of the fortifications which involved him visiting the cities and towns to the east, in order to give attention to the boundary towards the state of Milan, from which dangerous attacks were, quite rightly, feared. The 1637 report is a source of basic information on the defensive structure of many Piedmontese cities and Castellamonte's writing makes it possible to know what works were undertaken and the design indications; the most urgent requirements for completion were highlighted¹³.

When in 1637 Vittorio Amedeo I died suddenly and Cristina acquired the regency, she inherited a complex plan for defensive restructuring of the state. Castellamonte was the architect, and the main protagonist of military decisions made in the Duchy; he also managed the many construction sites which had been opened in the mountains and plains. But this was not all. In a study of the city of Modena¹⁴, which has not been cited in any recent «Savoy» research, it is shown that Castellamonte also provided a design for that city's citadel, at the end of the 1620s: the assignment was paid for by the Duke of Modena with a jewel worth 250 *ducato*ni¹⁵. A further prestigious assignment was given to Castellamonte in Turin; following Giovanni Battista Vertova's visit, he agreed to take on a new task «to serve Religion». In fact, as Vertova wrote: «Carlo di Castellamonte immediately offered to undertake the work and to study the project: he worked for twelve days and applied himself with fervour and spirit to the consideration of our fortifications [in Malta]. He saw writings and drawings and desired to be so precisely informed of all the particulars, that in confidence he gave much advice – partly by word of mouth and partly in maps and writings – which were of singular benefit to the safety of this Island»¹⁶. The fervent interest shown in the fortifications of Malta was inflamed by religious commitment: the Mediterranean island was recognised by Catholic Europe as a Christian bulwark against a feared invasion of the «Turks» and its defence had to be a joint responsibility. The Madama Reale demonstrated an equal level of concern: Cristina «gave her all to satisfy the desire of Your Excellency, and to serve the cause of Religion». As mentioned above, she met Vertova initially at the Valentino while she was assisting Francesco Giacinto, her first-born who was seriously ill. Upon his return from a journey to Pinerolo where he was able to consult with the military engineers of the French army, Vertova was received by Madama Reale for a second time and she requested once again to see the

plans for Malta. At this meeting, the Marquis of Agliè, the Count of Agliè, Carlo di Castellamonte and Madame Royale were present with Vertova who found her to be «in lively spirits, in a truly royal manner and of the profession of fortifying she understands the rules and terms so well that she can make a judgement of it, as she did with our fortifications, noting to me some particular opinions».

It is unlikely that the fourteen-year-old Cristina, who arrived in Turin as the new bride of Vittorio Amedeo I, had acquired any skill in military strategy as a child in France. It is more probable that, alongside her husband, the crown prince who from 1630 was the ruler, she was able to attend meetings with Carlo di Castellamonte and with the other military engineers of the Duchy, in this way learning the correct terminology and the rudiments of the art of fortifying. In the first half of the seventeenth century, many drawings were preserved within the great gallery of the royal palace, and are today stored in the State Archive of Turin in the five volumes of *Military Architecture*¹⁷. These are 576 maps drawn or acquired for Duke Emanuele Filiberto and for Carlo Emanuele I for the various purposes of government (for example defence and espionage). Dukes and military engineers were trained on these maps; Vittorio Amedeo I (1587-1637) was certainly among them. Cristina's future husband also spent some years of his infancy in Madrid with his two brothers Filippo Emanuele (1586-Madrid 1605) and Emanuele Filiberto (1588-1624). The three young princes, sons of Infanta Catalina Micaela of Spain, the



FIG. 7 CARLO DI CASTELLAMONTE, *Le trinciere* (frontispiece) di Carlo di Castellamonte. Turin, Musei Civici, Torino, 2698/DS.

sister of Felipe III, lived in the Spanish court with all the privileges of their rank and access to a privileged education. A recent essay on Emanuele Filiberto, Viceroy of Sicily¹⁸ provides further information: alongside his two brothers, he studied with the Portuguese cosmographer João Baptista Lavanha (Labana), an expert in naval architecture and military logistics. Therefore when he rose to the Savoy throne, Vittorio Amedeo I had a solid background in military matters: a determined woman like Cristina certainly had several opportunities to learn a great deal from him. When, as a widow, she acquired the regency and had to govern a state under attack by Spain, she had to work even more closely with Carlo di Castellamonte. Her knowledge of terminology and strategy became fundamental to her new role.

1638: A CRUCIAL YEAR

In 1638 the doors of the Valentino palace were opened to welcome Giovanni Battista Vertova, mathematician and military engineer, during his journey through the Italian peninsula¹⁹. He had arrived in Turin to gather opinions and projects for the fortifications of Malta. Cristina of France, Regent on the Savoy throne, who had been widowed following the death of Duke Vittorio Amedeo I of Savoy the previous year, was there to



FIG. 8 CARLO DI CASTELLAMONTE, «Città fortificata, con ogni probabilità Vercelli» [Fortified city, probably Vercelli], in *Le trinciere*. Turin, Musei Civici, Torino, 2698/DS.



FIG. 9 CARLO DI CASTELLAMONTE, Detail of the manuscript *Le trinciare*. Turin, Musei Civici, Torino, 2698/DS.

welcome him, accompanied by Carlo di Castellamonte. These were crucial days for the Duchy: the heir to the Savoy throne, little Francisco Giacinto, was seriously ill. Cristina had taken over from Vittorio Amedeo I as head of state, but the attack launched by Spain seemed incontainable: in the spring of 1638 the troops of the Marquis of Leganés, governor of the state of Milan, besieged the Savoy fortress of Breme, which was strategic for the control of the border towards Novara and Pavia. After capitulation, attention moved to Vercelli: in May 1638 the Spanish army crossed the river Sesia and laid siege to the city, which surrendered on 4th July. The Duchy was also under attack from the east; the French allies occupied Pinerolo just a few kilometres from the capital and did not hide their desire to reduce the Duchy to a protectorate. The governor of the state of Milan found a strategic ally in Prince Tommaso: the two armies were to succeed in bringing down several Piedmont towns, subtracting them from Savoy control in what would go down in history as the «notable campaña». For the Piedmontese, management of the strongholds on the borders, towards France and towards the state of Milan, proved to be even more crucial for security; the Spanish were to arrive at the gates of Turin, which would then suffer two different sieges, in 1639 and in 1640, and which would remain unconquered due also to the sturdiness of the fortified walls and the citadel.

Madama Reale remained focused on the political situation and did not avoid diplomatic negotiations and meetings with her advisors, well aware that her two brothers-in-law, Prince Tommaso and Cardinal Maurizio, were plotting to try and oust her, while in France, Cardinal Richelieu still had plans to extend his territories to Milan.

The close collaboration of Cristina with Carlo di Castellamonte became even closer in the Valentino construction site which, in those years, was still being completed. This ensured a faithful ally for Cristina who would also help her understand the most difficult problems relating to military strategy and the reinforcement of the system of fortifications.

In 1638 Castellamonte was finalising his manuscript *Le trinciere*²⁰, a work on the techniques of siege and defence of fortified locations, with drawings, consisting of a dedication, preface and twenty recommendations²¹. In the dedication, Castellamonte addresses Carlo Emanuele II (the little heir) declaring that he is now sixty-seven years old and has spent forty-six years in service of the Savoy. This sets the date of the manuscript at some time between the date of the death of Francisco Giacinto and 1639, the year when the engineer would be imprisoned for his great loyalty to Cristina, at the behest of Prince Tommaso who took Turin on 22 August 1639. He would be freed only in 1640, shortly before his death on 18 December 1640.

Le trinciere was intended by Castellamonte to be the compendium of the experiences he had acquired: «[...] the author of the present discourse wishes to recount that which he learned in forty-six years engaged in the service of the invincible Dukes Carlo Emanuele and Vittorio Amedeo di Savoia in the ministry of the fortifications». Not a word for Cristina, the Regent: perhaps the political situation dissuaded Castellamonte from writing a dedication, even though his loyalty, proven in any case, would soon cost him imprisonment.

EPILOGUE

After a year in prison, Castellamonte regained his freedom, but died soon after. Turin was under siege in 1640 and although initially Leganés and Prince Tommaso had the upper hand, it ended with the surrender of the Spaniards and Cristina was victorious. In 1642 the «brothers-in-law» bowed to Cristina, bringing an end to the civil war. For the moment, conflict with Spain was over. On 20th June 1648 Carlo Emanuele II reached fourteen years of age and was therefore authorised to assume governance of the state. In 1663 Cristina died; until her last days she governed her son's state in what would be described as the «disguised regency», receiving ambassadors and opening dispatches reserved for Carlo Emanuele. It is said that on the very day of his mother's death, Carlo Emanuele ordered Filippo d'Agliè to leave the court, if this is so, it can be inferred that he had wanted to exercise his power freely for some time. The first Madame Royale was buried in the church of Santa Teresa, in the chapel of Sant'Erasmo.

NOTES

1. ROSSO, 1994.
2. See ROGGERO, 2016 and the bibliography cited therein.
3. In the construction site, Michelangelo Morello and Andrea Costaguta, who was succeeded by Amedeo di Castellamonte, worked alternately. The vineyard is located in the valley of San Vito overlooking the river and directly opposite the Valentino palace. The engraving of the *Theatrum* depicts the seventeenth-century design (now lost): a central body with hall and belvedere, angular pavilions, symmetrical gardens. For Cristina the villa on the hill was her dearest joy: it combined the idea of power with that of freedom. The site was chosen for the salubriousness of the air, the vicinity to the city, the splendid view of the Valentino.
4. ROSSO, 2009.
5. FERRETTI, 2017.
6. ROGGERO, SCOTTI, 1994.
7. Pompeo and Francesco Bianchi were paid in 1645/46 for the stuccoes of the vault.
8. DE LUCCA, 2001, p. 95.
9. As a more recent contribution, see MERLOTTI, ROGGERO, 2016.
10. COGNASSO, 1971.
11. COMOLI MANDRACCI, 1983.
12. VIGLINO DAVICO, 2005.
13. *Relatione del Conte Castellamonte della visita alle fortificazioni d'Asti, Alba, Villanova, Ivrea Vercelli Santià Trino Vercelli – 1637* (AST, Materie Militari, *Intendenza Generale Fabbriche e Fortificazioni*, m. 1, n. 10).
14. CONFORTI, CURCIO, BULGARELLI, 1999.
15. Carlo di Castellamonte, design of the citadel and attached report (ASMo, Archivio Militare Estense, 235). Letter of Castellamonte, 23 December 1629 (ASMo, Archivio Militare Estense, 231).
16. DE LUCCA, 2001, pp. 94-95.
17. DENTONI LISTA, RICCI MASSABÒ, 2003.
18. MONTANA, 2016.
19. Vertova's journey to Italy began on 9 August 1638 and from Malta he reached Messina first, where he embarked for Genoa. He took with him a certain number of copies of the drawings of the Malta fortifications, in all likelihood also the proposals of Floriani for Floriana and Santa Margherita: Vertova wrote in his essay his intention to submit the drawings to various military engineers to obtain different opinions.
20. Musei Civici, Torino, 2698/DS.
21. MANETTI, 1988.

This paper refers to Christine as Cristina, the name she used in Turin. All other names are in their original language [TN].

ABBREVIATIONS

AST: Archivio di Stato di Torino

ASMo: Archivio di Stato di Modena

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II
HECHURA[S] DE

**«I believe there has never been a greater
King of any State than mine own King»
Giovan Giacomo Paleari Fratino,
engineer to Philip II, and other members
of the Paleari Fratino family from Morcote**

MARINO VIGANÒ
Fondazione Trivulzio

Translation: JULIET HAYDOCK

On 25 August 1580, the Habsburg King Philip II of Spain achieved victory in his «campaign to conquer the kingdom of Portugal», when he won the battle of Alcântara and captured the capital Lisbon. Afterwards, Giovan Giacomo Paleari Fratino (the engineer leading the expedition) described the events to his family as follows:

«The campaign of conquest is almost over. On the 25th of the month I left for the campaign against Don Antonio of Portugal, the Portuguese king. The king saved himself by fleeing, gathering up his people and locking himself up in a fortified city in the kingdom known as Porto, near to Galicia. However, after a few days, we sent in General Sancho Davila after him with part of our army Yesterday, the 27th, our Captain-General the Duke of Alba sent a captain with certain news that his army had broken the defences of Don Antonio, King of Portugal. He conquered the city of Porto, where the King was located and inflicted great losses on its people without any loss on our part. The aforementioned King managed to escape again, but this time our people have taken steps to ensure that he cannot save himself and the war will soon be over. And so we will have conquered this beautiful kingdom for our King Philip, who is and will be so great that I believe there has never been a greater King of any state than mine own King. He will be master of all the lands of Barbary, many islands in the ocean and all of the Indies that are now in the grip of Portugal, and all will offer him sincere respect and obedience»¹.

Such professions of loyalty and allegiance to an overarching political design were uncommon in letters written by soldiers, who usually switched quite erratically between different powers at the time. It is all the more significant because Paleari was not attached to the courts of Castile or Aragon and did not even hail from Spain's multifaceted conti-

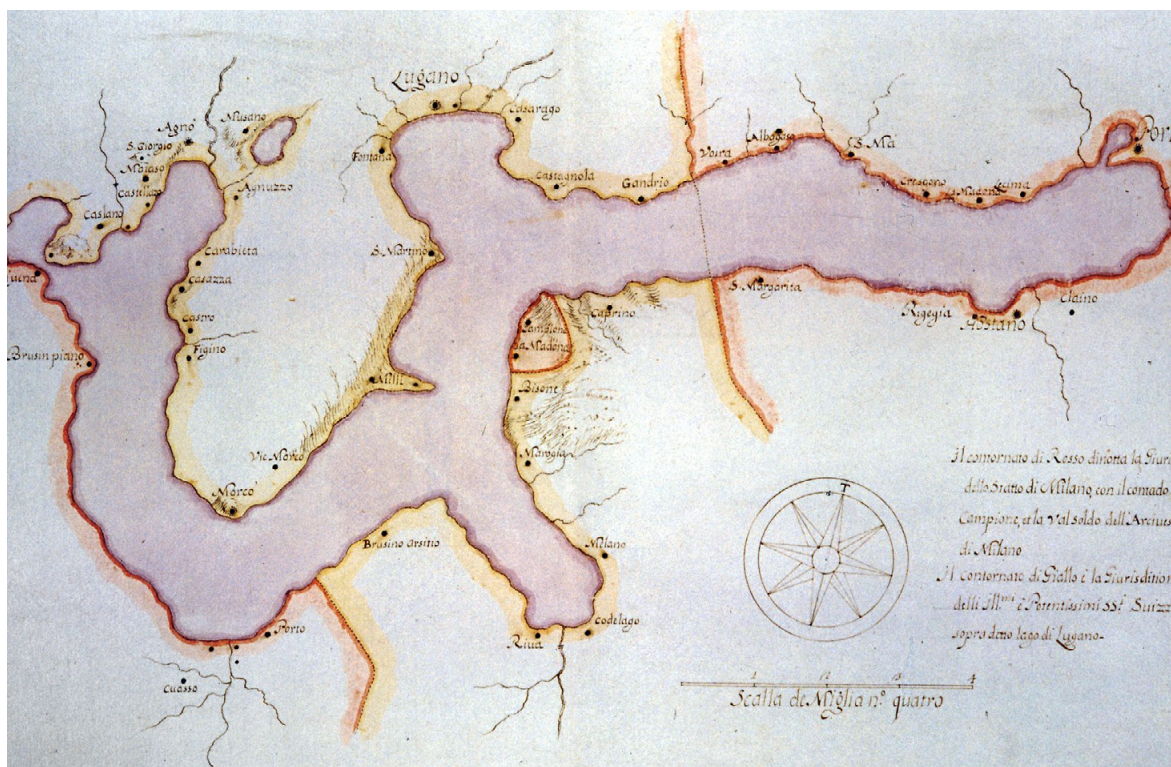


FIG. 1 GASPARE BERETTA, «Lago di Lugano» with town of «Morco» [Morcote] on the promontory extending into Lake Ceresio [old name for Lake Lugano], second half of 17th century. Milan, Archivio Storico Civico, Belgioioso, cart. 262, doc. 87.

mental or Mediterranean empire. A Lombard and Swiss subject, he was actually a native of Morcote, a village in the Italian-speaking bailiwick of Lugano that had been subject to the twelve Cantons of the old Swiss Confederacy since 1512 [FIG. 1]. His allegiance to Philip II's dream of a universal monarchy, like that of his brothers Bernardino and Giorgio (and of his grandson and great-grandson Francesco and Pietro to the sovereign's descendants, Philip III, Philip IV and Charles II) was therefore a voluntary choice, observed by a tightknit group of engineers for one and a half centuries from 1558 until 1698, when the Navarre branch of the family died out.

Their contribution was immense in terms of the quantity and quality of their achievements. Giovan Giacomo began his work in Milan, where in 1560 he designed six bastions as part of the project to turn Sforza Castle into a citadel. These were built by his brother Giorgio. In 1565, he was transferred to Spain and in 1566 to the Goulette of Tunis. He returned from there in 1569 to take charge of the strongholds of Gibraltar, Cadiz, Pamplona, Fuentarrabia, Santander and San Sebastian. In 1574, he returned to the Mediterranean front, working between Ibiza, Mallorca, Minorca, Cagliari, Alghero, Valencia, Oran and Mers-el Khebir. In 1579, he returned to court. In 1580, he was appointed engineer in charge of the Portuguese expedition described above and was responsible for designing modern fortifications after the conquest. In 1584, he was summoned to Pamplona, where he died in 1586.

After living in Milan from 1559 onward, his younger brother Giorgio was sent to Sardinia in 1573. There he built the ramparts of Cagliari, Alghero and Castello Aragonese, as well as the walls of Villamassargia and some coastal towers. In 1578, he was sent to

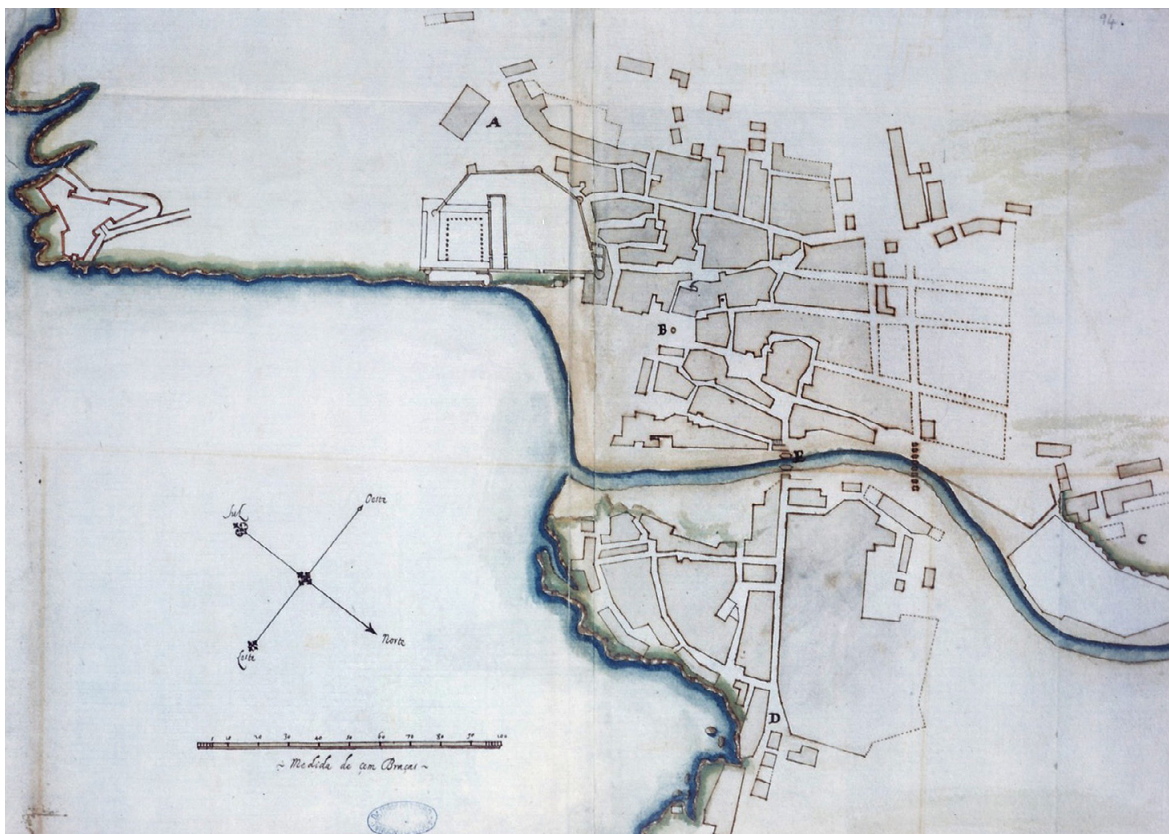


FIG. 2 GIOVAN GIACOMO PALEARI FRATINO, «*Descripçam da Villa de Casquáis feita pello Capitão fratino p[ar]a dár a Sua Mag[esta].de*», [1581]. Lisbon, Instituto dos Arquivos Nacionais Torre do Tombo, Arquivos Particulares, Arquivo Casa Cadaval, cod. 29. Plan views of fortresses in Portugal, Ilhas, Mazagão, Argélia, Santa Helena, Larache and Goa, fol. 94.

the Balearics, where he worked for about six years apart from short stays in Galicia and Cantabria. When Giorgio's brother died in 1586, Giorgio was commissioned to build the citadel of Pamplona. In 1588, he brought his son Francesco with him to Spain when he returned from leave in Morcote. Francesco succeeded him in 1589 upon his death. Francesco worked for nearly 50 years in Navarre and Granada and died in 1637, handing on his title to his own son *don* Pietro, who decided to leave the profession, dying in 1698. Over the course of the century, the nickname «El Fratin» was a constant presence in the military history of Castile and Aragon².

These long and exhausting years of toil were a consequence of a life choice made by Giovan Giacomo, forerunner of the Paleari family of engineers. He initially enrolled in the army of Henry II of Valois, King of France but was taken prisoner near Moncalvo Monferrato in 1558. The following dedication suggests that he willingly transferred his allegiance to Spain. He became established as «the main engineer we have here, known as El Fratin, the greatest and best officer, who is currently in Italy» – in the words of the commendation he obtained when he left Milan for Madrid in 1565³. Throughout the nearly 30 years of his career in the service of Philip II, he consistently received warm declarations of esteem.

Fernando Álvarez de Toledo, III Duke of Alba was a demanding soldier. Once Portugal had been occupied, the coastal defences were managed under his orders, particularly the fortress of Cascais [FIG. 2]. In 1581, he urged «send there El Fratin because without him

we cannot do what remains to be done with peace of mind»⁴. Fernando clearly relied on his opinion: «I do not trust anyone except for El Fratin, because I am sure he understands it very well»⁵. Upon his death in 1586, the Viceroy of Navarre, Francisco Hurtado de Mendoza, Marquis of Almazán, lamenting the loss of his expert and faithful servant to the King, as he introduced Giovan Giacomo's brother: «the death of El Fratin was a great loss to this new fortification, as it is bound be for many others, because in addition to his remarkable ability, he was a very loyal person and worked with great passion. All of this obliges me to humbly beg your Majesty to extend your grace to his brothers and particularly Giorgio Palearo in whom I recognise the same obedience to your Majesty's Royal service that I recognised in the deceased»⁶. Giorgio then took Giovan Giacomo's place, running the major construction sites for the kingdom's fortification.

When construction work was due to continue on the citadel of Perpignan in 1588, the Viceroy of Catalonia, Manrique de Lara y Girón, Count of Valencia, knew there was already a sufficiently practical engineer on site. The Milanese Giovan Giorgio Settala, was nevertheless of the opinion that «the opinion and experience of El Fratin», he meant Giorgio in this case, «is well known and Perpignan square deserves the person who knows most about the world and using his knowledge within it»; it was known how much he had done, how much risk he had faced and what his opinion was therefore worth: «Wherever he has been and stayed, it is well known that El Fratin has worked hard. He has overcome great dangers and fatigue to render great service to your Majesty and his opinion in this matter counts a lot»⁷. In 1590, when Manrique de Lara y Girón introduced his heir Francesco to Philip II, he again praised Giovan Giacomo and Giorgio for their expertise, commitment to good work and proven loyalty:

«The brothers Giacomo and Giorgio Fratino have served your Majesty with their expertise and their abilities, as your Majesty is well aware, and both continued to take care of every part of your Majesty's kingdom until their death. Wherever they were sent, they both created works of great value and unceasingly committed themselves to your Majesty's service. To ensure the continuation of their service, they devoted themselves to instructing their nephew and son Francesco Fratino and after the death of his father, your Majesty was minded to grant him the title of engineer, like his father and uncle, with a salary of 20 ducats a month, which is 50 ducats less, whereby he received much grace and favour. So he came here to continue the work of his predecessors and did so with extreme devotion and diligence, following my orders as he had no title of his own. It cost him a great effort. The diseases going ground last year in this city of your kingdom meant he was sick and on the verge of death for three months, so his commitment and sacrifice to the employment bequeathed to him by his father was a little less than expected. He is also obliged to help his sisters, whom he takes care of like a good and virtuous brother. He asked me to kiss your Majesty's hand and beg him to grant him your grace based on his past triumphs in order that he can imitate them and better fulfil the tasks that remain to him to complete. I implore your Majesty to grant him this grace so that he is able to serve your Majesty properly. This will encourage your servants to sacrifice their lives with joy and humility to your Majesty, whom our Lord God will protect and rejoice in for many years to come»⁸.

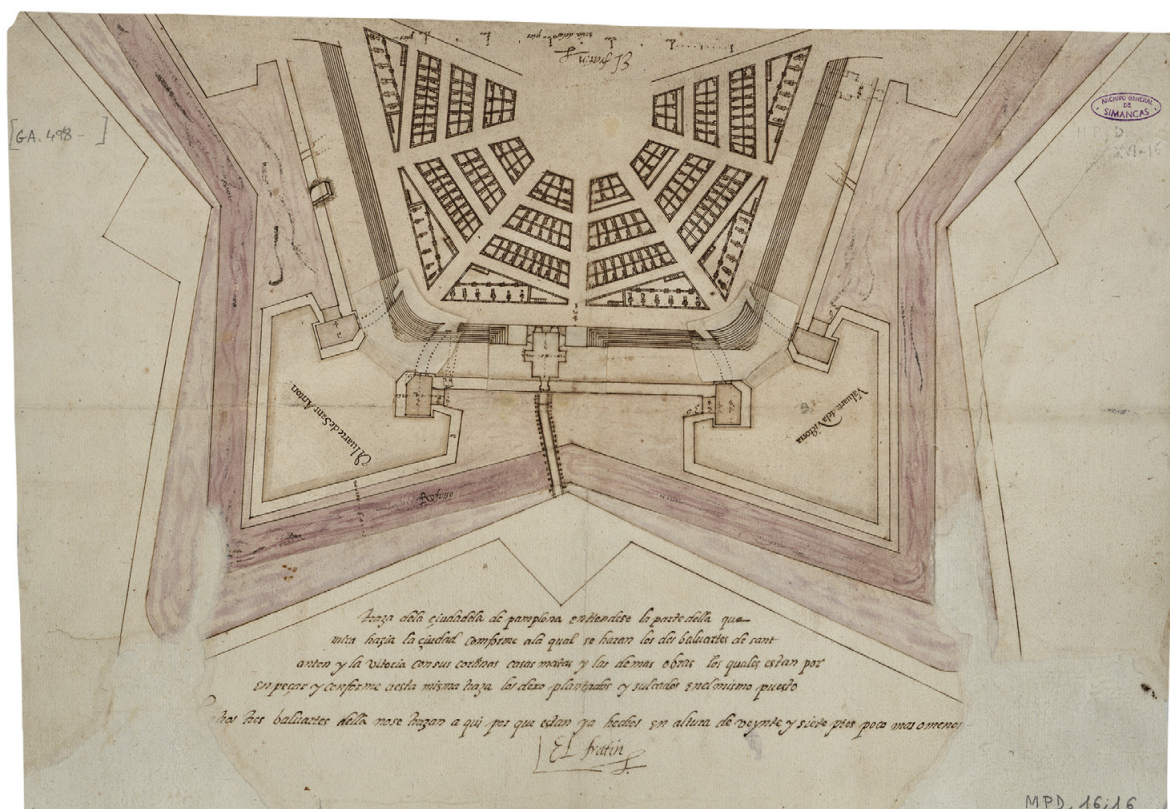


FIG. 3 GIOVAN GIACOMO PALEARI FRATINO, «Traza de la çiuadela de pamplona entendiense la parte della que mira hazia la çiuadad» [Outline of the citadel of Pamplona: part overlooking the city], [1586?]. España, Ministerio de Cultura y Deporte, Archivo General de Simancas, MPD, 16, 016.

In a mark of the greatest acknowledgement, Philip II referred to them as «worthy persons»⁹ and when the Marquis of Almazán introduced Giovan Giacomo to the Viceroy of Navarre [FIG. 3] in 1584, he stressed his attachment to the Crown: «And because El Fratin is so attentive and diligent and is so zealous in my service and in building the fortification he is in charge of, you feel much affection towards him, honouring him, helping him, supporting him, showing him every kindness and with full consideration of what you say and feel is necessary for the fortification»¹⁰ ordering him to execute the drawings «honouring and supporting him as he deserves»¹¹. «Intelligence, attentiveness and zeal» were recurring watchwords in all correspondence¹². Their professionalism and carefully-judged proximity to influential court notables – Vespasiano Gonzaga-Colonna, Duke of Trajetto, the aforementioned Fernando Alvarez de Toledo, Duke of Alba, secretary to the king, Juan Delgado –, helped Giovan Giacomo, followed by Giorgio and his son and nephew, Francesco and Pietro, to fit into the Spanish Imperial design.

The first generation Palearis enjoyed the privilege of only having to go through the King's secretary to gain his ear. They were received at court and explained proposals and projects to the council or directly to Philip II. This was a crucial sign of distinction in the hierarchy of officials. Giovan Giacomo and Giorgio were well aware of their standing as «servants» of the highest rank in the kingdom. It is unsurprising that their thoughts were of their king even in their last wishes. Giorgio dictated the following to a chancellor in Pamplona a few days before his death: «I declare that I have served the King Don

Felipe with the loyalty, rectitude and care to which I have always been obliged, without ever having failed in my duties. But if there has been any problem or negligence in serving him, of which I declare I am unaware, I ask and command that no fault is attributed to my performance of the Royal service that I was commissioned by him to carry out unless the King our Lord is fully exonerated of any responsibility»¹³.

Huge renown, remunerations – albeit deficient and irregular – personal access to the sovereign, all based on a life spent drawing and erecting fortifications with diligence and care, as per instructions received: «With the diligence and care that everything is done in the service of His Majesty». These also revealed their positions of responsibility – factories, building sites, supervisors, workers and their relationships with élites and local communities – based on a skilful mix of expertise in the field and good terms with the patrons that counted, on a hierarchical scale from local viceroys and general captains up to central councillors, secretaries of State and War, sometimes right up to the King himself. Due to their position as councillors to the Crown, those below them in the hierarchy of patronage, without the same access to court, sometimes asked them to intervene as intermediaries with governing bodies. In one particular instance, this happened to Giorgio, who was petitioned by the son of the Captain of Mallorca, Hugo Berard:

«Who shows so much mercy to his servants without having to be asked has little need to leave a record in the form of a few papers in my hand. I implore your Magnificence to consider myself and my father as your servants, as he already knows, and to command us with the utmost freedom. This is why I say that I place myself in the hands of your Magnificence with regard to our affairs in the certainty that my father and I will achieve your grace. I therefore implore your Magnificence to intervene with His Majesty and with these Lords and for your Magnificence to complete the necessary formalities in order to obtain the land we have requested for my father. We have a great need to recover the money for the fortification and I must therefore beg your Magnificence because it is better that you should do it than I should ask it of him. I will notify your Magnificence of anything that should be offered to me or should happen as agreed by our Lord and Master and by anyone to whom our Lord wishes to grant all the property that I desire. Grant me leave to beg Your Magnificence to seek from those gentlemen the few pounds that the royal procurators have always taken for secret expenses (which the Treasurer now claims as its due) for many days that the Viceroy and *Audiencia* hear the parties and hand down justice and due to differences between the Viceroy and my father, I did not want to take the provision, because these gentlemen see what happens and [*omission*] being necessary, they hand down the intended justice here and I beg Your Magnificence mainly for the money for the fortification and for you to remind the Captain. I beg Your Magnificence to excuse my departure with these gentlemen and mainly with the Vice-chancellor because I have done all that I could»¹⁴.

Being and feeling part of a chosen client-patron relationship was an undoubted privilege, although not without unfavourable consequences. These included the difficulty of using the already very limited leave granted. This was particularly true of military engineers who were continuously shunted around from one war front to another. These en-

gineers were so indispensable to serve the needs of power that they were bound by them and lacked the slightest flexibility. As an example, this happened to Giorgio when he asked to be repatriated from Sardinia in 1573: «In the matter of the leave that you begged of us, to enable us to go to your home in April or May during a hold-up in the work due to lack of money, we do not mean that you should absent yourself from the Kingdom, but that you should be on call until we order you to do something else»¹⁵. He had no better luck in 1577, when he wrote to the King before travelling to court «if it pleases you to allow me to stop at my house on the way, where we will pray to our Lord for the sake of your Majesty»¹⁶, and again «awaiting your Majesty's grace to give me three months' leave to go and see my home»¹⁷.

Even though he was living in Milan [FIG. 4] at the end of 1578, Giorgio obtained his first leave only five years later while he was on the island of Majorca¹⁸. This was granted in the form of a *real cedula* dated 1584¹⁹ that was renewed in 1585 for use during the

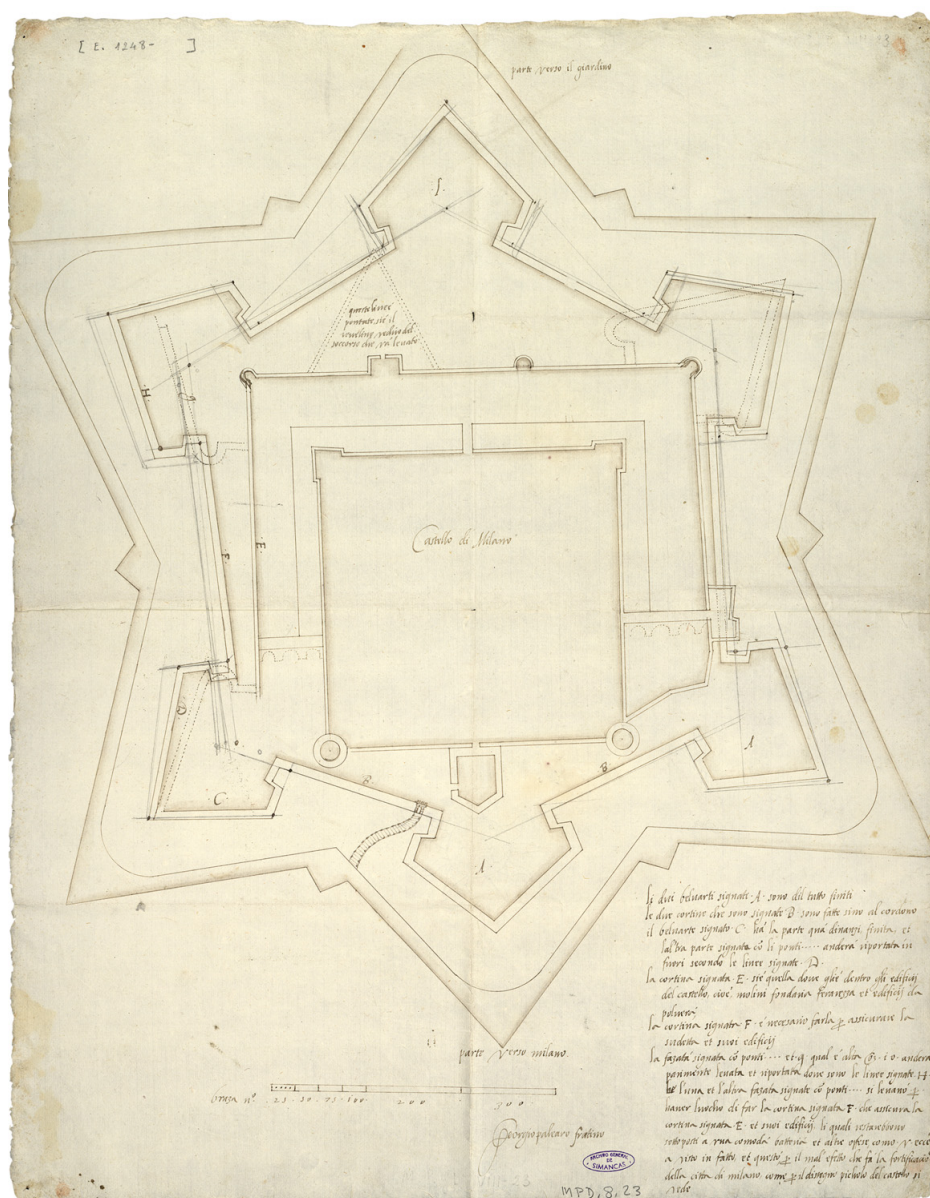


FIG. 4
GIORGIO PALEARI
FRATINO, *Plan
view of «Castello di
Milano», [1578?].*
España, Ministerio
de Cultura y De-
porte, Archivo Ge-
neral de Simancas,
MPD, 08, 023.

subsequent winter²⁰ but he was too busy to take it. We know that he was finally able to return home in 1588, due to evidence in State and private documents, including a letter from the *mestre mayor* of the *castillo* of São Julião da Barra, situated at the mouth of the River Tagus. He assured Giorgio he was «very happy to know he was in Italy to see his home, which he longed for so much». This was because «the tribulations and risks you faced along the way have been for the purpose of seeing your home and your children, to fulfil some of your desires and obligations, so you will now be more relaxed and much happier than for many years»²¹. When the engineer finally returned to Morcote as an old man, he did not take more than the six months he had been granted. Instead he sought out his son Francesco and took the opportunity to bind himself even more closely to the Castile patron-client system by having himself granted citizenship of Milan by the «Holy Catholic Royal Majesty», «under whose orders he took his son to Court»²², so that he might start working in the profession.

The same thing happened to Giovan Giacomo: «Because of the time I have served His Majesty, I asked permission to visit my house, stressing that it is 14 years since I have been home and that I am forced to do so, at the cost of being a bad Christian and with the obvious risk of losing my way. I ask the same leave for my brother Giorgio because we have to get along with one another, for the peace of mind of his children and mine»²³; and again in 1578, after 14 years of service, he begged: «that I may be allowed home to serve God and help my poor children and relatives, to take them my few possessions, which they have been unable to enjoy because of my absence, hoping to improve and increase them». He wrote the following to his family from Lisbon in 1580: «I am constantly asking his Majesty to bestow on me the grace of granting me six months leave to visit my friends, relatives and children, but it has been to no avail and this does not surprise me, because in such matters you cannot always have what you want. I long to see my homeland more than anything else. Patience, it will come about when God wills it»²⁴.

On that occasion he asked the king «if possible, to grant me the grace of giving me leave to visit my house this winter because it has been 16 years since I last went»²⁵. When his request was again turned down, he returned to the subject four months later in 1581, asking secretary Delgado to ask the King's reasons for an exile that had meant he had not been able to see or succour his family for 15 years, a matter which weighed greatly on his «conscience»:

«I implore your lordship for the love of God, which sustains me in the hope that His Majesty will grant me the grace of six-months' leave to go and visit my home and children. I assure your lordship that I do not ask or desire to go to rest, wander around or earn money during the journey, which will cost me much trouble and danger. I ask and pray because this touches my soul and my conscience, as your lordship can imagine, being such a gentleman and aware of the length of time I have been unable to see or help my family in any way»²⁶.

He was too indispensable to be granted leave and would never see Milan or Morcote again. However, such extreme restrictions and his incredibly tough existence seem not to have undermined his sense of shared responsibility for a project that transcended his own personal importance. The family of engineers were even prompted to pass down the

job they had held for decades to their relatives, children and grandchildren, in the specific case of Giorgio. Giovan Giacomo, now a prominent figure, began to introduce his brother Bernardino an infantry Captain from Pesmes in Burgundy, who came to see him in Navarre in 1584, to his own patron, the King. He asked the sovereign to grant «that grace due to subjects who have served him so faithfully», and then he would be able to «fulfil his role as Captain of Pesmes in your lands at the French border», to enable Bernardino return to Franche-Comté.

«After writing about future developments to your Majesty in my letter of the 14th, I wrote to the Marquis asking him to urge your Majesty to order the money to be procured quickly before these works are suspended. We have already seen what damage has ensued for the work and for the service of your Majesty's enterprise. The Marquis replied that it would be very advisable to send someone for this purpose and suggested that my brother Captain Bernardino Palearo should go to kiss the feet of your Majesty and supplicate him when your family returns. He has established that he is going to obtain [omission] in the certainty that this will be useful to your Majesty, and then my brother will make a general report because he took over my work when I was off sick and is at the excavation site. Your Majesty knows him and our relationship and, with reference to my letter of the 14th, I beg you to grant my brother the grace due to subjects who have served him so faithfully. Your Majesty knows how many times you have already granted these favours and continue to do so in cases of extreme importance provided we do not make improper use of your Majesty's money, I also remind your Majesty that we have been reporting this problem for many years and this favour could not be granted earlier because of the death of President Operos and your Majesty's intervening voyage to Portugal. For this reason, I hope that your Majesty will not fail in granting the mercy that we hope from him, despite this enforced loss of time. I implore you that my brother should be sent as soon as possible so that he can go to fulfil his role as a Captain in Pesmes at the French border, in the knowledge that he can place his maximum trust for anything in your Majesty, whose holy Catholic royal person is protected by our Lord who rejoices in your every glorious and holy enterprise in the name of all Christianity»²⁷.

The recommendation was successful, judging by a series of payment orders on the *Chambre des Comptes* of Dole proving Bernardino's *l'engagement* in the works on the fortress: a receipt for «Neufz vingtz douze frans monoye» in 1587²⁸; another *quittance* in 1587, then the balance in 1588 and 1589 «for the gentleman from Morcote» «for leave due to him after repairing the fortress of Dole»²⁹; credit for a master ironmonger employed in manufacturing drawbridges, personally guaranteed by him in 1589³⁰; payment orders dated 1589 to «Bernardin de Paleario», engineer at the «fortifications de Dole»³¹; and a 1591 mandate «to Bernardin Paléario, lord of Morcote, captain and castellan of Montmirey»³².

Francesco Paleari Fratino, Giorgio's son, was also granted the same privileges of patronage. While alive, he was reported as serving as «Captain Fratin with the deceased uncle» and father, having «spent all his time studying the sciences of mathematics and architecture»: with a *entretienimento* of 10 ducats a month, he was assigned to the citadel

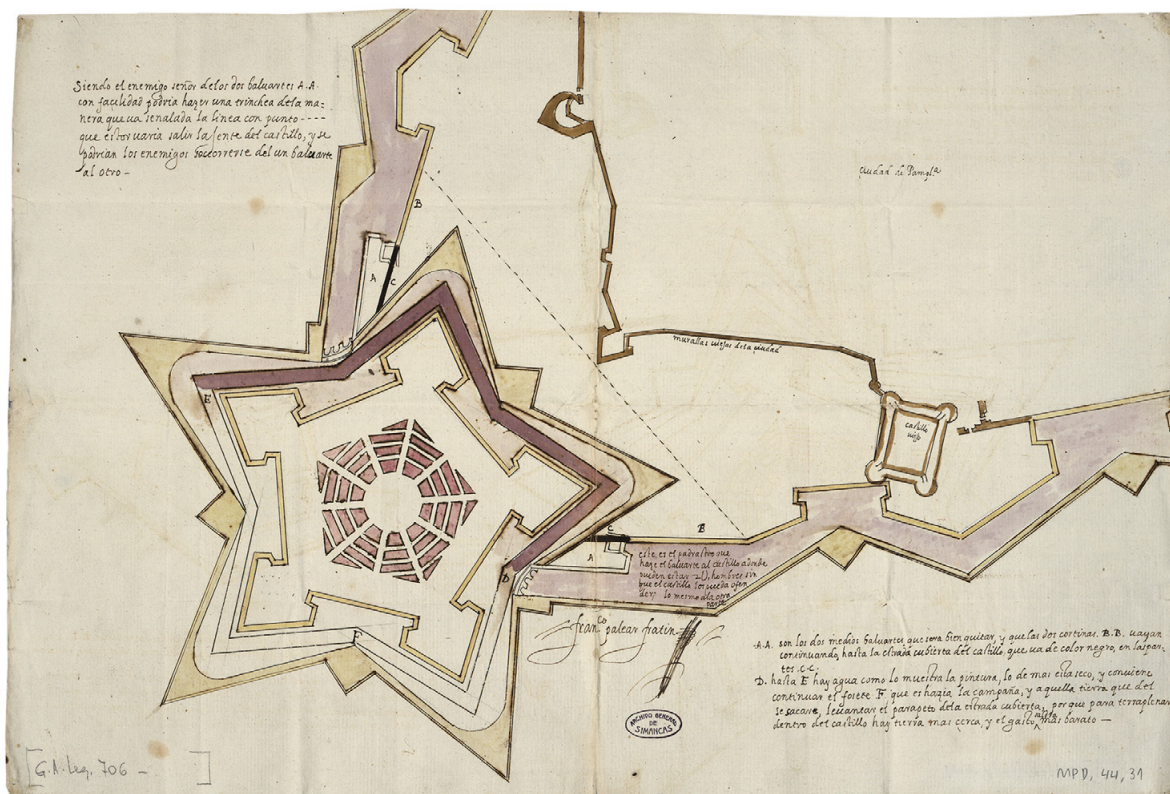


FIG. 5 FRANCESCO PALEARI FRATINO, *Planta del Castillo de Pamplona con las reformas que se han de hacer para su mayor seguridad y defensa* [Plan view of Pamplona Castle with renovations to be carried out to make it safer and better protected], «Pamplona, 25 September 1608». España, Ministerio de Cultura y Deporte, Archivo General de Simancas, MPD, 44, 031.

of Pamplona, where he was to work throughout his life [FIG. 5], in order to gain practical experience in the theoretical concepts he had acquired through study³³. In 1589, when on his deathbed, Giorgio then entrusted Francesco into the care of someone who had been his friend for 30 years, calling on him to recommend Francesco to the King as a possible successor at the fortress construction site due to the skills he had acquired, despite being little more than a boy:

«So he asked me, in the name of friendship, which has now lasted 30 years, and in your name, to remind your Majesty that he and his brother have worked on this enterprise since its inception. In this capacity they ask that the work should be continued by his son, who, even if young, is virtuous, very capable and capable of completing this enterprise, having learned the secrets and things that must be done to complete the work from his predecessors. I promised to grant him this favour and see it through, pointing out that Fratino's death is a very serious loss for this work and the fate of your Majesty's estate. Both engineers have worked with great attentiveness and loyalty, but if there is anyone who can support him with the same diligence, it is his son. I make this plea, your Majesty, with all the obedience I owe to him, who holds him in the same consideration [...] Francesco Fratino seems worth of this request, and I beg your Majesty to command that the War Council should gather together all the people who work in the same profession as him and aspire to this employment and hold an examination to establish if there is anyone more capable than

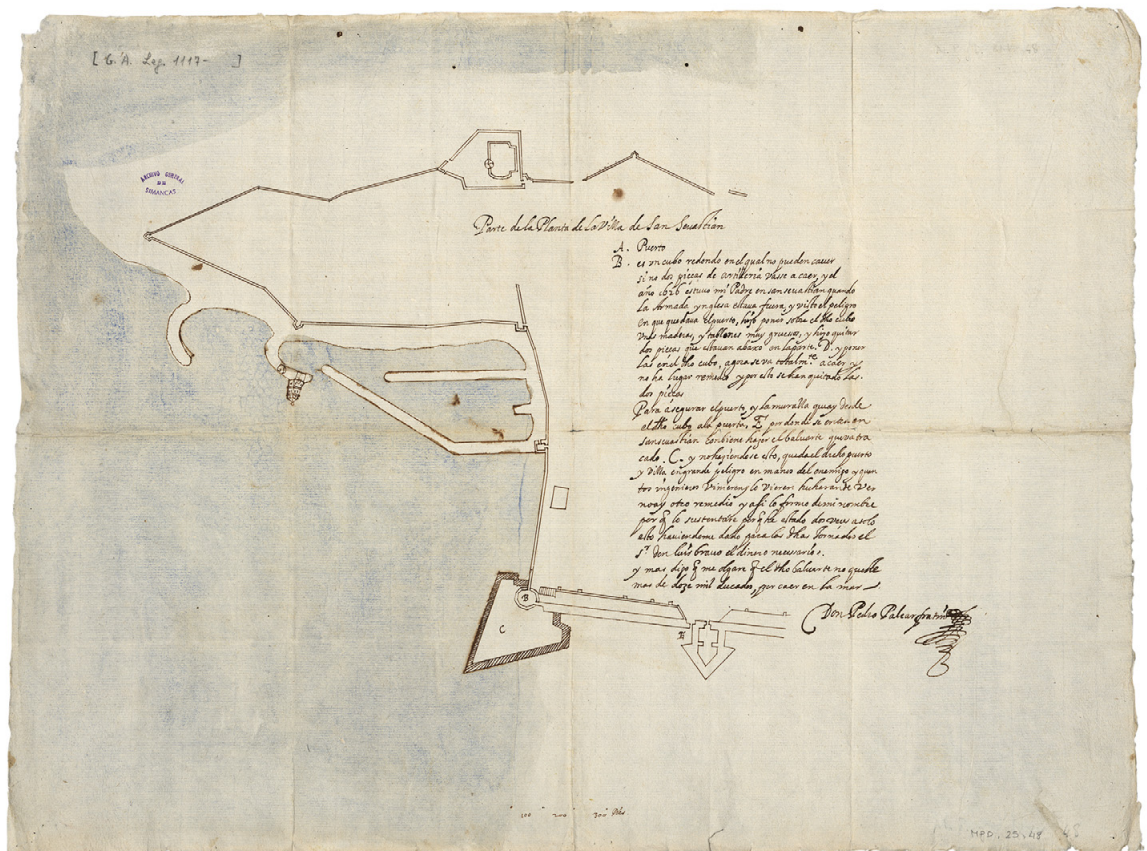
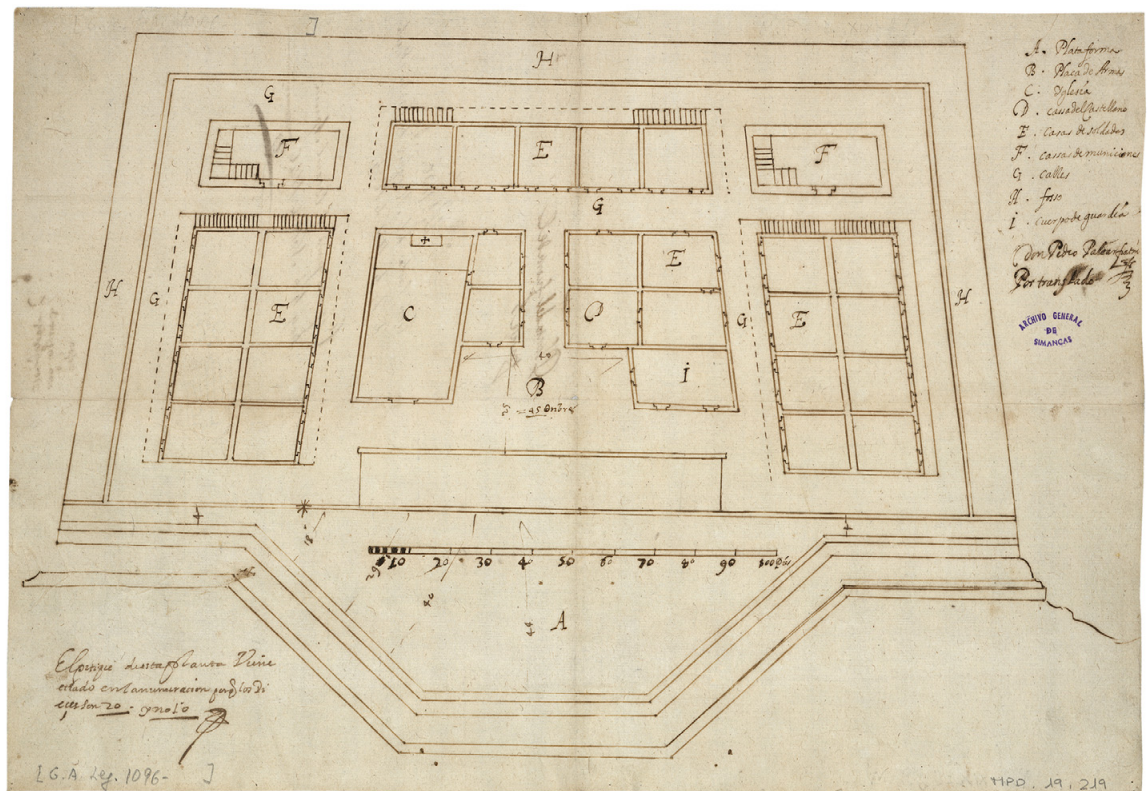
him to serve your Majesty and complete the work that he has already been engaged on in the company of his father. If there is anything I have neglected to say here, I beg your Majesty to notify me in person»³⁴.

Having taken over management of the works from his father, and slipped into the well-established client-patron system, in 1590 Francesco applied to Philip II for the official title of engineer, supported by the commendation of the new Viceroy of Navarre, José Martín de Córdoba y Velasco, Marquis of Cortes, who, referring as usual to the merits of his late uncle Giovan Giacomo and father Giorgio, drawing up a long list of his proven professional qualities and mentioning his poverty ...and the burden of the sisters he was called on to support:

«The brothers Giacomo and Giorgio Fratino have served your Majesty with their expertise and their abilities, as your Majesty is well aware, and both continued to take care of every part of your Majesty's kingdom until their death. Wherever they were sent, they both created works of great value and unceasingly committed themselves to your Majesty's service. To ensure the continuation of their service, they devoted themselves to instructing their nephew and son Francesco Fratino and after the death of his father, your Majesty was minded to grant him the title of engineer, like his father and uncle, with a salary of 20 ducats a month, which is 50 ducats less, whereby he received much grace and favour. So he came here to continue the work of his predecessors and did so with extreme devotion and diligence, following my orders as he had no title of his own. It cost him a great effort. The diseases going ground last year in this city of your kingdom meant he was sick and on the verge of death for three months, so his commitment and sacrifice to the employment bequeathed to him by his father was a little less than expected. He is also obliged to help his sisters, whom he takes care of like a good and virtuous brother. He asked me to kiss your Majesty's hand and beg him to grant him your grace based on his past triumphs in order that he can imitate them and better fulfil the tasks that remain to him to complete. I implore your Majesty to grant him this grace so that he is able to serve your Majesty properly. This will encourage your servants to sacrifice their lives with joy and humility to your Majesty, whom our Lord God will protect and rejoice in for many years to come»³⁵.

«In consideration of services rendered by Giorgio and Giacomo Fratino, his father and uncle», in 1593 the new Viceroy again recommended him for a salary increase, «in view of his well-known desire to serve», and asked the king «to do him the grace of increasing his salary, which in my judgement will be put to good use and I believe that it will be used to better serve your Majesty in view of his good predisposition»³⁶. In the same year, Francesco obtained the title of engineer³⁷, a sign of full admission and distinction among engineers, emblematic of a patronage equal to that enjoyed by his long-deceased relatives.

This privilege was extended to his son Pietro Paleari Fratino, who arrived in Pamplona in approximately 1622, claiming to have begun «to study for some years in the same profession as my father» but, because of poverty, having left my position «for other employment with which I try to support myself, though my financial hardship is greater than



one would expect, given that I am my father's son»³⁸. He was also hired due to his family connections and there is a record of him in 1623 in Malaga, where «he took care of matters concerning the fortifications», prompting an increase in salary from 10 to 15 scudos per month in 1626³⁹. Pietro was ordered to Fuentarrabia, where he designed the Santa Isabel del Pasaje battery [FIG. 6] in 1632 and suggested improvements in San Sebastian [FIG. 7] in 1634, before leaving the army to become a «Superintendent of construction work for the Bishop» of Navarre⁴⁰. The *Consorteria* was instrumental in helping Pietro succeed his father, who died in 1637⁴¹. These higher powers elevated the Fratino family of Palaeri from their lowly position to the status of servants of local and central potentates, where they were influential at court and in the countries of the Crown. The family business dynasty was broken only by the death of Pietro Paleari Fratino in 1698.

NOTES

1. Private archive (AP) Paleari Fratino, Morcote. [*Lettera*], [Alcântara?, 28 August 1580].
2. Refer to: VIGANÒ, 2004a.
3. Archivo General de Simancas, *Secretaría de Estado* (AGS, E), leg. 1.221, No 81. [*Dispaccio*], «de M[i]l[a]no à ult[im].º de Junio 1565» [from Milan at the end of June 1565].
4. AGS, E, leg. 425, No 140. *El Duque de Alua*, «de lisboa XIII de enero MDLXXXJ» [from Lisbon 14 January 1581].
5. Archivo General de Simancas, *Guerra antigua* (AGS, GA), leg. 117, No 80. *El Duque de Alua*, «del burgo de lisboa a XIII de enero MDLXXXJ» [from the town of Lisbon 14 January 1581].
6. AGS, GA, leg. 186, No 78. *El marques de Almacan*, «de Pamp[lon].ª a 12 de Junio 1586» [from Barcelona 12 June 1586].
7. AGS, GA, leg. 241, No 291. *Don manrique de lara*, «de Barzelona A 14 de Jullio 1588» [from Barcelona 14 July 1588].
8. AGS, GA, leg. 316, No 448. [*Dispaccio*], «de pamlona y de diz[iembr].º 19 de 1590 años» [from Pamplona, 19 December 1590].
9. AGS, E, leg. 1.244, n. 200. [*Lettera*], «fecha en el pardo a V de octu[br].º 1576 años» [done in El Pardo on 5 October 1576].
10. AGS, GA, leg. 169, No 448. *Al marques de almacan*, «de San lorenço a XJX de Junio de 1584 anos» [from San Lorenzo on 19 June 1584].
11. AGS, E, leg. 360, No 24. *Al Marques de Almacan*, «de S[an].ª lor[enç].º a XXV de Junio 1584» [from San Lorenzo on 25 June 1584].
12. Archivo General, Simancas, *Guerra moderna* (AGS, GM), leg. 3.694, s.n. *Respuesta del Fratin a lo que ha escrito Don Miguel de Moncada*, «fecha al vltimo de setembre 1578» [dated end of September 1578].
13. AGS, GA, leg. 264, No 251. *Clausula del Testamento hecho en Pamplona por el Ingeniero Jorge Fratin año 1589*, «en la Ciudad de pamlona a dos dias del mes de nobiembre de mil y quinientos ochenta y nueve años» [in the city of Pamplona on 2 November 1589].
14. AP Paleari Fratino (Morcote). *Memoria para el S[eño].º Cap[itá].º fratin dexada por el Cap[itá].º Berard*, «De Madrid 17 de Abril 87» [from Madrid on 17 April '87].
15. Archivio Storico della Città, Lugano (ASL), sc. 438, int. 1/8. [*Lettera*], «de Aranjuez a 30 de Enero de M.D.LXXIIIJ» [from Aranjuez on 30 January 1574].
16. AGS, GA, leg. 83, n. 83. *Jacobo [sic!] palearo fratin*, «di Calliar il 27 agosto 1577» [from Cagliari on 27 August 1577], summary in Spanish under No 79. *Jorge palearo fratin*, «Callar 1577».
17. AGS, GA, leg. 83, No 83. *Jacobo [sic!] palearo fratin*, «di Calliar il 27 agosto 1577» [from Cagliari on 27 August 1577], summary in Spanish under No 79. *Jorge palearo fratin*, «Callar 1577».
18. AGS, GA, leg. 167, No 23. *Don Agustin Delgado*, «De Madrid 18 de otu[br].º 1584» [from Madrid 18 October 1584].
19. Archivo General de Simancas, *Libros-registro del Consejo de Guerra* (AGS, LRC), General ledgers (1529-1587), reg. 39 (30.06.1584 - 30.10.1585), foll. 97v.-98. *Jorge fratin*, «fecha en el pardo a Veynte de ott[ubr].º 1584 a[ño]s» [done in El Pardo on 20 October 1584].
20. AGS, LRC, General ledgers (1529-1587), reg. 40 (30.06.1584 - 30.07.1586), fol. 211. *Real çedula*, «de Moncon A XJX de Agosto de 1585 a[ño]s» [from Morcote on 19 August 1585].
21. AGS, GA, leg. 241, No 273. *Anton col Al Capitan Jorge fratin*, «de Setuval a 14 de otubre 1588 años» [from Setuval on 14 October 1588].
22. Archivio Storico Civico, Milan, *Dicasteri* (ASCM, D), b. 230, reg. 20 (Liber P[aten].^{torum} Annorum 1588 : 1589), foll. 28v.-31. *Ciuitas D.[omini] georgij Palearij app[ella].^{ti} Fratini*, «Dat[um] Mediolani die sexto Julij 1588», annotazione «Reg[istra].^{ta} in filo patentiu[m] p[rese]ntata sub die 8 Julij 1588 reg[istra].^{ta} in libro rubeo reg[istro] paten[ti]um Reg[ist]r[i]e Duc[is] Bap[ta]l Camerae extraord[inaria].º status Mediolani existen[te] penis me, rationatore infr[ascript]um Jn folio 141 subscriptj Jo. Bap[ta]l Albrigonus».
23. AGS, GA, leg. 88, No 255. [*Minuta*], «a 27 de Junio 1578» [on 27 June 1578].
24. AP Paleari Fratino, Morcote. [*Lettera*], cit., [Alcântara?, 28 August 1580].
25. AGS, GA, leg. 105, No 178. *El fratin*, «de lisboa a los XVIIJ de setiembre de 1580 años» [from Lisbon on 18 September 1580].
26. AGS, GA, leg. 110, No 129. *El cap[it].^{an} fratin*, «da lisboa a los 28 de henero 1581» [from Lisbon on 28 January 1581].
27. AGS, GA, leg. 360, No 41. *Del fratin*, «de Pamp[lon].ª a 22 de abril 1585» [from Pamplona on 22 April 1585].
28. Archives Départementales de la Doubs, Besançon, *Chambre des Comptes de Dole* (ADDB, B) 1.926 (Comptes des fortifications de Dole 1562/1587). *Pour le S[eigneu].º de Morcault*, «fait a Dole le vnzie de noue[m]bre quinze centz octante sept», signé «Paleario» [done in Dole on 20 November 1587].
29. ADDB, B 1.925 (Comptes des fortifications de Dole 1589/1592), foll. IX-X. *Quittance*, «faicte a Dole le douzieme de Juin de l'an p.nt mil cinq cent quatre vint et neuf» [done in Dole on 12 June 1589].
30. ADDB, B 1.925 (Comptes des fortifications de Dole 1589/1592), foll. XIIv.-XIII. *Quittance*, «le septieme Juillet quinze cent quatre vint et neuf» [7 July 1589].
31. ADDB, B 1.927 (Comptes des fortifications de Dole 1588/1606). *Quittance*, «fait aud[it] dole le douzieme de iuing 1589», signé «Paleario» [done in Dole on 12 June 1589].
32. ADDB, B 1.089 (Comptes généraux 1591/1592), fol. CCL.
33. AGS, GA, leg. 272, No 232. *Fran[cis].º palear fratin hijo de Jorge fratin*, «1589», postilla «assientensele X d[ucado].º de sueldo al mes y bueluase a seruir en Pamplona con su padre» [settling on him wages of 10 ducats per month and ordering him to serve in Pamplona with his father].

34. AGS, GA, leg. 273, No 3. [*Dispaccio*], «deste castillo y de nouiembre 18 de 1589» [from Castile on 18 November 1589].
35. AGS, GA, leg. 316, No 448. [*Lettera*], «de pamplona y de diz[iembr].^e 19 de 1590 años» [from Pamploma on 19 December 1590].
36. AGS, GA, leg. 392, No 317. *El marques don m[arti]n de Cordoua*, «Pamp[lon].^a y Abril 30 de 1593 a[ño]s» [from Pamploma on 30 April 1593].
37. AGS, LRC, Libros generales. Artillería (1579-1600), reg. 63 (02.11.1591 - 20.07.1594), foll. 199 e v. *Titulo de Ingeniero a Fran[cis].^o fratin*, «Dada en Sant lorenzo A 17 de Jullio de 1593 años» [Done in San Lorenzo on 17 July 1593].
38. AGS, GA, leg. 1.120, s.n. *Pedro Palear fratin*, «en panplona a 12 de Março de 1635» [in Pamploma on 12 March 1635].
39. AGS, LRC, Libros generales. Guardas de Castilla, Artillería y Fronteras (1601-1648), reg. 146 (03.08.1626 - 13.07.1627), fol. 79v. *Don P[edr].^o fratin*, «Dada en M[adri].^d a 14 de 8^{bre} de 1626 años» [Done in Madrid on 14 October 1626].
40. AGS, GA, leg. 1.178, s.n. *fr[ancis].^o Palear fratin*, [December 1635?].
41. AZANZA LÓPEZ, 1998, pp. 15, 21, 30, 40-42, 45, 90-97, 112, 126, 129, 155, 187, 199, 274, 318, 390-391, 423-426, 428, 432 and 527.

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Carlo d'Aragona and Antonio del Nobile. Military defences, financial ventures and territorial aspirations

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Sometimes a frontier, sometimes a bulwark against the infidel – Sicily has always been a living contradiction. This applies not merely to the way it is represented but also to Sicily's many striking contradictions: it has always been fortified and even militarised yet remains a constant landing place for exiles, merchants, peoples and cultures. Despite this evidence that it is impossible to render any island impregnable and deny what lies deep in its DNA, this does not stop people trying to do exactly that and ignoring history – particularly the long history of the 16th century – which teaches us that migration cannot be stopped.

The 16th century was also when the Spanish monarchy decided to change the defensive system of Sicily's coastlines with a radical effect on local areas and the collective memory. This has been clearly explained in the historical literature, which includes major studies on the system of fortifications along the Mediterranean coast¹. Contemporary chronicles and documentary sources record these fortifications as primary objectives of the Viceroy who succeeded one another from the 1520s in ruling firstly the kingdom and then the institutions responsible for governing the area. The pace at which the power cascaded down from the Viceroy varied according to specific political scenarios and the inclinations and natures of ministers in charge of the kingdom. The Viceroy's names are known to us – Ferrante Gonzaga, Juan de Vega, Carlo d'Aragona Tagliavia and Marco Antonio Colonna – and their personalities were intrinsically linked to the genesis of the island's military defences: they were responsible for implementing royal directives but had to discuss them actively with the sovereign, to whom they reported problems, needs and possible solutions. All this is well documented in contemporary correspondence, together with the complex organisation of the work, the difficulty in finding economic resources and the decisive role played by the engineers who oversaw the construction work².

Maurizio Vesco wrote a recent essay giving brief profiles of these engineers and providing some important personal information, thus filling a gap in the historical literature covering this sector³. His essay points out that throughout their careers – often working in conditions of great danger – they brought together roles working in the field of civil and religious architecture as well as in restricted military field, or became entrepreneurs in related sectors, for example supplying gunpowder and weapons for fortresses and armies. Such economic activities took off from the 1540s, as evidenced by the nefarious deeds involving Ferramolino, who was accused of using his role of royal engineer for personal ends by setting up a family business specifically for this purpose⁴.

This interesting topic has not been touched on much by studies in this field despite its importance in the actions of the characters involved and their relations with central government. This paper will therefore focus on the subject, attempting to interweave the entrepreneurial actions of Giovan Antonio del Nobile, senior engineer from 1572 to 1585, with the ruling approach taken by Carlo d'Aragona Tagliavia, Duke of Terranova, who presided over the kingdom from 1566 to 1568 and from 1571 to 1577.

I will start by briefly outlining the two characters, beginning with Carlo. He was heir to one of the major houses of Sicily and was given a top government position at the time of Viceroy Vega, with whom he had a complex relationship because Vega feared Carlo's ambitions, his abilities and his extensive network of relations with imperial ministers, principally the Bishop of Arras, Antoine Perrenot de Granvelle⁵.

Nevertheless, his action in the field quickly won the esteem of the Viceroy and the latter even asked for his support in a judicial dispute with other local stakeholders. He was Captain of Siracusa from May 1551 and played an active role in the work performed by the engineer Paolo Prado to adapt fortifications and build embankments, helping him find labour from neighbouring communities⁶. He also actively assisted the Viceroy, who was worried about incoming news about the size of the enemy army⁷.

These events are mentioned here because they illustrate the way Terranova operated, in close contact with the local area and its organisation but with a broad military and political view of the government. This is very evident in his library, in which treatises on military architecture abounded, including the indispensable *De bello Gallico* by Caesar and political works such as *Della Ragion di Stato* by Giovanni Botero, which gave good descriptions of the attributes required by those who aspired to rule⁸.

All this meant that by the end of the 1551 military campaign, Carlo was considered an authoritative player who was well acquainted with the shortcomings of military defences and aware of the need to gather troops on the island who were ready to fight the enemy on land and sea while simultaneously putting together a national militia that would overcome the difficulty of keeping armies that were essentially made up of mercenaries.

After that, Carlo never left the pinnacle of power. Forced to remain on the island by the sudden death of his father, news of which reached him while he was travelling to the English court of Philip II, he held numerous positions and was appointed president of the kingdom twice. His last presidency was equivalent to the status of Viceroy, a position that the royal system did not give to natives but was to all intents and purposes granted to him by the sovereign.

I will not dwell on his political, administrative and economic actions, which I have described elsewhere, but merely underline his sound military strategy of continuing to improve the fortifications, set up a national militia and supply the arms and powders required to defend the kingdom.

Terranova was keenly aware of this last point, because of the chronic lack of gunpowder and ammunition common to most provinces of the monarchy⁹, which was escalated to an overriding concern in Sicily because of the fear of a Turkish invasion. The sovereign therefore continually asked for supplies to be obtained from other centres of production and called for plans to implement independent production of these materials, because the local area apparently contained mines that were potentially a good source of saltpetre and alum.

These plans went back some way: the processes must be placed in the broader context of a resumption in mine prospecting activities, dating back to the first three decades of the 15th century, when mining operations were scattered throughout the island. This sector was managed by private individuals who operated under licences and permits issued by the Royal Court and a somewhat vague law that allowed the monarchy to take half of the minerals mined as well as information on each discovery of gold, silver, bronze, copper, tin, lead and stones of any kind¹⁰. In the 15th and 16th centuries there was a proliferation in such licences and would-be metal-working workshops set up in the Messina area and in the areas of Tortorici and Fiumedinisi, which were considered so well endowed with resources that Granvelle, current Viceroy of Naples, was prompted to send an agent to investigate investment opportunities in the sector.

Gunpowder nevertheless continued to be imported into the kingdom, while attempts to provide facilities for training expert artillerymen and/or refine minerals continued¹¹. Although the domestic supply of saltpetre was good, there was not enough to meet the military needs of an island that also supplied Malta and Spanish outposts in North Africa.

This is recorded in the viceregal correspondence as well as the consent granted to establish gunpowder factories in Siracusa and Trapani (major saltpetre producing areas), leaving Palermo and Messina with the task of supplying the court and the royal armada¹².

One of the people entrusted with procurement was Giovan Antonio del Nobile, future senior engineer of the kingdom following the tragic death in Lepanto of Antonio Conti, owner of a profitable entrepreneurial activity in the sector¹³.

On 31 August 1563, he entered into partnership with the Neapolitan Alessandro Sanmassimino who had been granted, together with the Venetian Antonio Sanzaro, a licence in 1561 for the production of *azaro* [sulphur] and iron for casting 10,000 *cantari* of iron shot to be reserved for the fortresses and the naval fleet, to be delivered within two years, with a commitment to produce 500 *cantari* per month¹⁴. This booming business was stepped up two years later with a commission from the Royal Court for an additional 200 *cantari* of sulphur¹⁵. This brought such good profits for Nobile that three years later he was prompted to set up a new company in Catania to exploit the Assoro sulphur mines with the Genoese merchants Francesco and Giovanni Pallavicino. Caterina Allegra also attended the signing of the articles of association, acting as her husband's attorney¹⁶.

Another commission was issued in September 1569 by the Viceroy, the Marquis of Pescara, to inspect the factory in Fiumedinisi in order to draw up a detailed report on the plant structure and the alum production equipment¹⁷.

However, Nobile's most lucrative venture did not start until one year later, in October 1570. This took the form of a company set up for the exploitation of iron – granted on a 15-year basis – with the merchants Gerardo Spada and Martino Nobile from Lucca, the Genoese Lomellino and entrepreneurs Sanmassimino and Sanzaro, accompanied in parallel granting of a *concessione in gabella* [type of lease agreement] to the Venetian merchant Giovan Battista Santacroce and Bartolo Riolo, for the sulphur mines «present in the fiefdom of Summatini bordering with the fiefdom of Riese and River Salso and other boundaries», thus giving him an official monopoly on the production of sulphur and hence gunpowder.

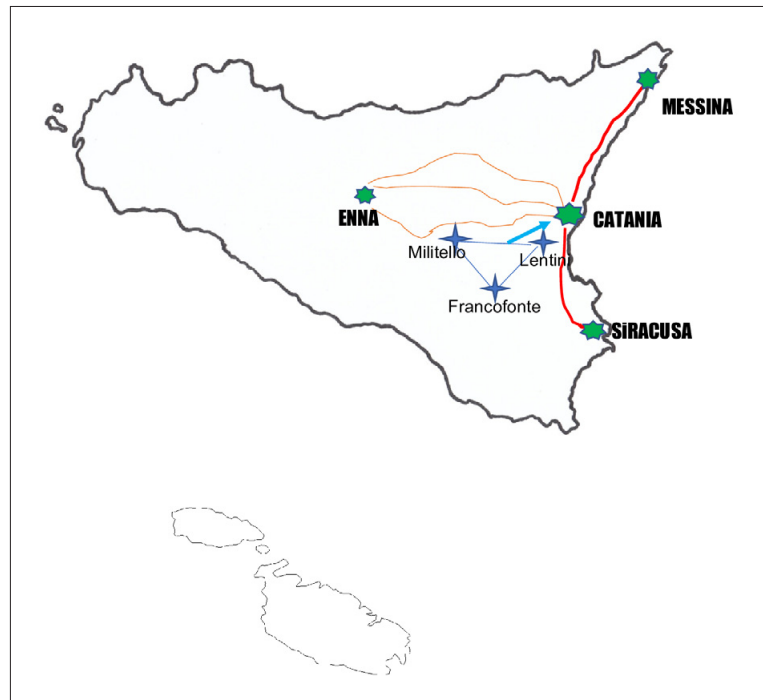
One year later Pope Pius V's desires came to fruition and the Holy League won the victory of Lepanto. Without dwelling here on the historical significance of the event, which has been widely debated in the historical literature¹⁸, I will simply point out that this caused economic and social stress to the island of Sicily, obliging it to allocate all resources not intended for self-consumption to military supplies and therefore to establish the quantity and quality of local production surpluses. From 1571, the onset of a war economy was the litmus test of the country's economic life, which revealed problems and weaknesses but also strengths.

This explains why, in this context, Nobile's entrepreneurial activities were considered compatible with his public career. This was made clear when Carlo of Aragon awarded him a six-year contract to supply 480 quintals of saltpetre a year in June 1572¹⁹, just three months after his appointment as senior engineer. This was a significant step up the ladder for the engineer-entrepreneur, who clearly aimed to secure control of the largest component of gunpowder and establish a monopoly in the sector. His position nevertheless continually bordered on conflict of interest and was therefore closely monitored by Carlo, who in February, sent the kingdom's former gunpowder supplier, Nicola Maida, to syndicate Nobile's production²⁰. The result was a relationship of particular interest, because it reflected the sector's fragility, determined by a specialised workforce aware of its numerical shortcomings and stretched by the oligopolistic market conditions – while also indicating the extent to which the area between «Lentini Asaro, La Ferla, Catania and other nearby places» was controlled by Giovan Antonio who, during the same year, had also involved the Secreto of Siracusa in the construction of refining plants in Militello and in the supply of coal dust, entrusted to Stefano Iozzo from Siracusa.

This was therefore a strategic area for the engineer, who had settled in Catania but nevertheless maintained close political and economic ties with Siracusa and with the south-eastern area. In my opinion he did this for two reasons: firstly because Catania had full control of the road network connecting sulphur production centres in the Ennese area, and the Militello, Francofonte, Lentini triangle, which was becoming increasingly important as a saltpetre supply sector; secondly, due to its location between the major military cities of the east coast – Messina and Siracusa – with significant opportunities toward the southern tip of Sicily and Malta [FIG. 1].

This monopoly nevertheless began to annoy Terranova, who was anxious about the need for gunpowder. He also had to meet the demands of Don Juan of Austria, who was about to start a new African campaign. He therefore did not hesitate to liberalise the saltpetre market, in May 1573, even in places where the royal court had entered into exclu-

FIG. 1 Map showing links between quarrying areas in the south east.



sive agreements²¹. Nobile was not the Royal Court's only partner. The sources record that other parties held similar contracts during the same period, meaning that Terranova had problems with all the major producers, who were aware of operating in a key sector and therefore ready to increase prices or apply pressure to the court to close the sector to other entities. The Duke made multiple attempts to break exclusive agreements in the sector, albeit with caution imposed by the rights he had acquired and military needs. For example, in June 1572 – the same month he awarded the large supply contract described above to Nobile – the Royal Court signed an agreement with the Lombard Carlo Stoppani to «activate the vitriol, salt, rock salt, tin, lead, sulphur and alum mines present in this Kingdom», giving an interesting reason: «In order to be independent and not have to place orders outside the Kingdom». Terranova therefore urgently needed a new agreement, which did not infringe the commitment made with Nobile, i.e. did not cover mines that «had previously been discovered and started up by the magnificent Antonio Nobile or others» but introduced a *de facto* competitor who was granted top-quality time and credit terms²². The individual in this case also came from the Lombardy area, but was married to a woman from Palermo, confirming the practice of establishing economic activities through family ties.

Nevertheless, it is clear that this distrust did nothing to harm the professional engineering relationship between the two individuals, because from June 1574 Terranova sent Nobile wherever his services were needed: from Favignana to Carlentini, in the latter case to inspect the defences because: «to compel the building works department to enclose the whole city with walls, an engineer will be required to issue the orders»²³. These activities nevertheless proceeded in parallel with the drawing and design of defences, bridges (from 1583) and coastal towers²⁴. He carried out these tasks with his brother Orazio, who had followed him to Sicily and was appointed senior engineer in the Kingdom

from 1591 to 1610. It should be stressed that the tasks required of Nobile were mostly linked to inspection operations and less to his ability to design defences, despite his high-ranking position. This observation, combined with his considerable standing at the Royal Court, suggests that the engineer's economic strength excelled his own capabilities, placing him in a position that meant he was almost untouchable by the political power and this overrode any dislike, which was undoubtedly present.

And the long story of Giovan Antonio unfolded: he was definitely capable of holding down both jobs despite the heavy workload he performed for the entire island, even after the departure of the Spanish army at a time when the monarchy was turning away from the Mediterranean to concentrate on pressing affairs triggered by the Flemish revolt. This did not halt or reduce the work required to establish the kingdom's fortresses, but simply eased the pressures of war. The effects on his economic strategies were more telling, and he seamlessly modelled his production structures to fit the new international scenarios.

The relationship between Nobile and Terranova also remained the same, at least until 1577, when the appointment of Marco Antonio Colonna as Viceroy of Sicily changed the hierarchy of command. This triggered a period of open disputes between Colonna and Terranova, which ended when the latter departed for the Madrid court²⁵. Giovan Antonio, on the other hand, immediately got along with the new Viceroy, who kept him in charge as he changed his military strategy. The Viceroy asked Parliament for the sums necessary to strengthen the line of coastal defences²⁶, commissioning Tiburzio Spannocchi²⁷ to do the work with the aid of the two Nobile brothers²⁸.

Long reports were also written on the private activities of Giovan Antonio, whose mining concessions were renewed in 1580²⁹. These demonstrated that the engineer had become established as a major metallurgical entrepreneur within the kingdom and also expanded into the marble factor, as is clear from a letter from Giuseppe Alagona, guaranteeing Nobile surety of 30 *onza* a year, attesting that Nobile had been granted the right to work all the sulphur, salt, rock salt, «mining media» and marble mines in the kingdom by acts of the Royal Curia³⁰.

CONCLUSIONS

On 4 July 1585, Giovanni Antonio died in Catania, the city where he had resided for years. He had acquired the right to be described as Catanese *ab ductionem uxoris* [through marriage], in the words of a notary. His heirs were his wife Caterina Allegra, his stepson Marco Aurelio and his sisters Maddalena and Domenica, to whom he left his goods in his country of origin (clear evidence of their presence in Arosio); he also left a natural daughter Vittoria Antonia, to whom he made a bequest of 200 *onza* as her nun's dowry, in addition to a few small bequests, including one to his Flemish servant Giovanni Rodoricos³¹. He left similarly precise instructions about sums owed to him, – amounting to approximately 22,000 *scudos*, 20,000 owed by the universities of Licata and Augusta and the remaining 2000 by the Royal Court – and sums relating to his burial in the church of Santa Maria di Gesù in Catania.



FIG. 2 Roof and nave of the church of Santa Lucia in Siracusa.

Six days after the publication of the will «in the column of the great loggia of this city», an inventory was made of his assets, as requested by his heirs. As well as «certain debts declared by the testator», this listed all the fixed and movable assets present in Siracusa, including those of a technical nature relating to his role of engineer and left to his brother Orazio, namely «all drawing tools, compasses and astrolabes present in the city of Siracusa, with brotherly love, and nothing else»³².

These instruments were also a symbol that he was designating his brother as his spiritual heir. They were added to the instruments that Orazio acquired over time and were left after his death, in November 1610³³, to the Casa Professa of Palermo and in particular to the Jesuit Giuseppe La Mattina heir to «all engineering objects, compasses, astrolabes, architecture books and drawings ... and an old tattered painting of Sicily and a piece of paper with the map of Sicily, started and unfinished»³⁴.

In this case too, Orazio continued the former links established by his brother, who had supplied marble for the church of the Collegio di Santa Lucia to the Jesuit Fathers of Siracusa in 1582, under the terms of an agreement between the Roman masters Antonio Isfaxier and Andrea de Angelo and the Order's attorneys Giovanni Landolina, Giovan Cosmo Bellomo and Mario Danieli³⁵ [FIGS. 2 and 3].



FIG. 3 TIBURZIO SPANNOCCI, Detail of the churches of Siracusa, 1578. *Descripción de las marinas de todo el Reino de Sicilia*. Biblioteca Nacional de España, Mss. 788.

The notes on Nobile apparently end here but the archives certainly hold further important information that could tell us more about his role in the island's socio-economic history. We need to know more about Giovan Antonio's other professional doings (involving the intertwining of public service and private enterprise, partnerships with Genoese and Tuscan merchants and numerous companies for exploiting the sulphur mines in the centre of the island, the area of Messina and the areas around Catania) in order to gain a better understanding of the framework of opportunities connected with the territorial, economic and social transformations that started on the island during the 16th century. This report merely touches on some parts of the overall picture.

Firstly, it confirms that changes in defensive arrangements with the consequent arrival of highly skilled engineers made these individuals the holders of privileged information. These qualities were added to their knowledge of the techniques necessary for mining. They were therefore sought out by the kingdom's merchants, who seized advantages stemming from the war economy, involving the engineers in expanding sectors where control of product quality was fundamental, as well as good relations with the Viceroy and his ministers. This complicated dialectic varied according to the profile of the sovereign's various representatives but in the case of Carlo Aragona Tagliavia also underwent times of conflict exacerbated by the fragility of the market segment, which was also subject to competition from the group of royal ministers. This was made clear in 1573 when a 15-year mining concession was granted to Stefano Morreale, the kingdom's conservator³⁶. Relations with Marco Antonio Colonna, on the other hand, were less strained because he was a stranger to the island and because the government was less pressured by the urgency of the war economy after the failure of Don Giovanni's African mission.

I would like to conclude by mentioning the financial strategy implemented by Nobile and his intuition that Catania was a strategic place for trade due to its location halfway between the two military cities of Messina and Siracusa, and because it was a natural infrastructural hub for minerals from areas in the centre of the island. In short, he had foreseen what would become of the island two centuries later.

NOTES

1. An up-to-date summary of the extensive literature on the militarisation of the Mediterranean can be found in the FORTMED project. For the island of Sicily, see the summary in CANCELLO, 2007, pp. 7-67; FAVARÒ, 2009;
2. On this subject, see FAVARÒ, 2004, pp. 34-35; SCALISI, 2018.
3. VESCO, 2015a, pp. 223-230.
4. GAZZÉ, 2001, pp. 131-143.
5. During this period, the monarchy was also remodelling government structures with the aim of revitalising administrative action, organising the judicial sphere and controlling the actions of ministers and the *ministero togato* [legal establishment]. In short, this new government culture marked a watershed in the century, which was decisive in the construction of political networks revolving round Carlo. On the subject, see SCALISI, 2012.
6. There were also troops and militias, and a handful of officers that Vega strengthened by issuing three captains' licences: two for Don Antonio Statella and Francisco Sulis and another left blank for Terranova to choose his own captain. Carlo nevertheless insisted on the need for more soldiers, Archivio di Stato di Napoli (ASN), *Fondo Pignatelli Aragona Cortés, Diplomatico*, vol. II, f. 6r; f. 14r.
7. The dispute concerned accusations levelled against Carlo that he had requisitioned wheat and barley belonging to the Baron of Impiso, whose feudal land lay in the area of Noto, ASN, *Fondo Pignatelli Aragona Cortés, Diplomatico*, vol. II, f. 6r; f. 14r f. 41r.
8. VÁZQUEZ-MANASSERO, 2016, p. 245.
9. SÁNCHEZ GÓMEZ, 1985, pp. 55-62.
10. TRASSELLI, 1964, pp. 511-531; BAVIERA ALBANESE, 1974, pp. 53-54; VENTURA, 1996.
11. Particularly by the Viceroy Marquis of Pescara and Terranova, who established official rules for the newly established school of artillery, see FAVARÒ, 2009, pp. 70-72.
12. GALIZIA, 2012, pp. 94-96.
13. Giovan Antonio del Nobile was originally from Arosio, a town in the province of Como, not far from the canton of Ticino, where the Fratino family originated. He was appointed senior engineer in March 1572 on an annual salary of 300 *scudos*, compared to the 200 paid to Conti. This sum was also demanded by Camilliani, when he asked to be made a senior engineer on the same salary as Nobile in 1586.
14. Archivio di Stato di Palermo (hereafter ASPa), *Tribunale del Real Patrimonio, Lettere viceregie*, vol. 492, a.1562-63, c.308; vedi anche PR, 319, a.1560-61, c.564v, 11 June 1561.
15. ASPa, *Tribunale del Real Patrimonio*, vol. 1133, a-1565-66.
16. ASPa, *Fondo notai defunti*, vol. 5607, a.1567-68, c.972.
17. ASPa, *Tribunale del Real Patrimonio, Lettere viceregie*, vol. 557, a.1569-70, c.26.
18. Many studies have been written on this development, including RODRÍGUEZ SALGADO, 2001, pp. The historical literature on Lepanto is equally important. For a summary, see CAFFIERO, 1998; BARBERO, 2012.
19. See FAVARÒ, 2009, p. 69. Saltpetre was used together with sulphur to prepare gunpowder, obtained by means of a long drying process described as «(Original text) *ut vulgo dicitur di cotte*» [what is commonly referred to as cooked]. In particular, 60 *rotoli* of saltpetre, 23 *rotoli* of coal and 23 *rotoli* of sulphur were required to make a *cantaro* of arquebus powder, while 70 *rotoli* of saltpetre, 18 *rotoli* of coal and 18 *rotoli* of sulphur were required to make the same weight of canon powder.
20. «(Original text) *Nicola de Maida antico pulverista della Regia Corte et homo pratico nella munitione della polvere et salnitri sapendo la quantità di salnitri si fanno in Lentini Asaro, La Ferla, Catania et altri luoghi vicini et visto la poca quantità di salnitri che in questi anni s'hanno operato in detti luoghi e arbitri et informatosi dila causa di tanta poca opera ha inteso d'alcuni salnitriari essere perché lo m.co del Nobili non li paga più che onze 3.24 et detti salanitriari hanno poca cura di operare*» [Nicola de Maida, who was a former gunpowder manufacturer to the royal court, practised in the supply of powder and saltpetre and hence aware of the amount of saltpetre produced in Lentini Asaro, La Ferla, Catania and other nearby places, conducted investigations to find out why so little work was being carried out, given the small amount of saltpetre available during this period, and established from some saltpetre producers that it was because Nobile would not pay more than 3.24 *onza* and they had little interest in working], ASPa, *Tribunale del Real Patrimonio*, vol.601, c.228, 11 February 1573.
21. ASP, *Tribunale del Real Patrimonio, Lettere e dispaacci viceregi*, vol. 603, cc.276-277. This decision was prompted by the needs of the fortresses and the Royal Armada, anchored at the Messina Arsenal and in need of large quantities of iron, tin, lead and copper to repair guns and ships' chains, often ordered in from Naples, Milan and Dalmatia. On this subject, see GALIZIA, 2012, pp. 99-100.
22. Agreement ratified by the Royal Treasury whereby, in 1575, the notary Cavallaro of Messina drew up a public deed which transferred the original privilege «so that it has the same legal effect in court as the original privilege» at the request of Stoppani, who was in the city at that time as a guest of Pietro de' Giustiniani, Prior of S. Giovanni Battista of the Jerusalemite order. See Archivio di Stato di Messina (ASMe), *Notaio Cavallaro*, 83/I, cc.66r-71v.
23. On the building of Carlentini and its defences see ARICÒ, 2016.
24. Giovan Antonio played an interesting role in this context as the designer of the Galici bridge in the Catania area. Although it was repeatedly damaged, it still played a pivotal role in connecting both banks of the Simeto.
25. See SCALISI, 2011, pp. 246-271.
26. MONGITORE, 1749, pp. 385-386.
27. SPANNOCCHI, 1578; POLITO, 2004; MANFRÈ, 2013.

28. Interestingly enough, in October 1579, Orazio also displayed entrepreneurial flair by asking to be paid with 1000 forms of cheese for his work with Tiburzio Spannocchi: «(Original text) *stante che è finita la revisione delle torri con il sp.le cavalier Tiburtio et di poi la partenza di detto sp.le cavalier si è fermato molti giorni nella città di Messina per dare li disegni de tutto quello sia risoluto con detto sp.le cavaliere sopra la fortificazione di Milazzo del quale ne porta il disegno a VE et relatione suplicandola resti servita ...*» [after reviewing the towers with the worthy Cavalier Tiburzio, once Tiburzio had left, the knight stayed on for many days in the city of Messina to deliver the drawings regarding the decisions taken jointly for the fortification of Milazzo, carrying the design and report thereof to your excellence, begging for its execution ...] PALAZZOLO, 2011, p.71. From the following July, Orazio was sent to Milazzo in his capacity as an engineer by Marco Antonio Colonna, with the aim of arranging for the fortification of the city.
29. ASPa, *Tribunale del Real Patrimonio, Memoriali*, vol. 245, c.392 r.
30. «(Original text)...*omnia mineria huius regni vocata mezzi minerali videlicet sulfuris, salis, salgemme, marmorum et aliarum lapidum mistorum et media mineralia tam reperta quam reperienda predicto annis quinque continuis et completis numerandis a die primo mensis septembris ... pro venturi in antea ad rationem onze triginta quolibet anno...*» [all mining in this kingdom, i.e. those of sulphur, salt, rock salt, marble and other mixed stones and mining materials, both already performed and planned for the next five years starting from the first day of September ... for a future advance of three hundred *onza* for any year] through a court deed of release by the royal treasury dated 20 June 1580. The deed of agreement for the surety was drawn up by the notary Cipri, who drew up the *apoche* for the Royal Curia during the same period.
31. Nobile actually made a noncupative (oral) will on 29 January 1585, as recorded by the notary Vincenzo Blandizio from Britannia, but did not die until the following 4 July.
32. ASPa, *Tribunale del Real Patrimonio*, provisional numbering, vol.1682, c. 211.
33. ASPa, *Fondo Notai Defunti*, vol.16805.
34. The inventory is also quoted by FANELLI, 1998, p. 13. On the subject of Orazio Del Nobile, see also VESCO, 2015b, pp. 5-25.
35. The contract drawn up in the records of the notary Cipri established that both masters should «build and complete the church in any type of marble in accordance with the models and designs delivered to the attorneys, working from the date of the agreement to 10 December of this year and «(original text) *'a dari li marmori necessari per pretiis extimatibus eorum manufactura' dall'ingegnere Giovan Antonio lo Nobili*» [give them the marble necessary for 'the estimated price of their manufacture' by the engineer Giovan Antonio Nobile]», ASSr, *Notaio Cipri*, vol.10398, c.15, 7 November 1582.
36. ASPa, *Protonotario regio*, vol. 10, c. 314v.

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**«Per poter con opere servire»:
Giovanni Francesco Fiammelli,
«Florentine, mathematician,
theorist and practitioner»**

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Throughout Europe, the turn of the sixteenth to the seventeenth century witnessed a proliferation of writings on military technique and political theory. State government and service to a ruler were premised in those texts from a new dialogue dealing with tactics, technique and reasons of State, i.e., involving the key governmental actors in a context of permanent innovation in warfare. They were not always intended for a specialised readership, however. Many drew from the curiosity prompted in the nobility, enthusiasts and dilettantes, the new targets of this type of literature, by history and political strategy or ever more frequent scientific, technical and mechanical innovations¹.

Giovanni Francesco Fiammelli, Florentine mathematician and one of the major Italian military scientists in the employ of the Spanish crown in the second half of the sixteenth century, formed part of that political and cultural scenario. Toward the end of his life, after he retired from military practice to engage in teaching mathematics and mechanics, he turned to theorising, which led him to author five books on political and military practice. The value of those texts lies less in Fiammelli's innovative approach to military engineering than in his skill in pursuing the reformulation, from a modern perspective, of questions such as engineers' purpose and status and the relationships between theory and practice, architecture and engineering and innovation geared to war and technical needs². The foundations for that discourse, as Fiammelli himself acknowledged at the beginning of one of his treatises³, were the debates around the change in military practice and political theories of war that had been ongoing since the mid-sixteenth century. He used what he deemed be the confusion generated by the proliferation of writings induced by the ebullient change in military engineering theory as a pretext to formulate new proposals to clarify matters. Along with his core postulate, the need to unite political theory and military tactics, he pressed for the necessary relationship between both and



FIG. 1 GIOVANNI FRANCESCO FIAMMELLI, *Il principe difeso* (frontispiece), 1604, Rome, Carlo Vullietti.

what in one of his essays he called the *vera scienza*: mathematics, understood as the key to the practical substantiation of speculation on the grounds of Euclidian theorems⁴.

Fiammelli spawned his theories in the context of the proliferation of studies that, encouraged by the Counter-Reformation, hypothesised around the reasons of State and Christian morality in which political action was viewed from a military perspective. He advocated for action that would provide a Christian response to the Machiavellian principles set out in *The Prince* (1513) and *The art of war* (1520). The novelty lay in a series of innovations around technical and scientific developments that aimed to enhance military strategy and the systems of fortification and defence⁵ from a position that mixed classical tradition and Florentine scientific-technical innovation and the latter with its surrounding political environ-

ment⁶. It was from that position that Fiammelli, while trained in the technical innovation that characterised the Florentine school of military engineering, wrote his five treatises. Deeply immersed in Counter-Reformation Rome, he was able to dialogue with such grandees as Giovan Antonio Facchineto, Alessandro de' Medici (future Leo XI), Paul V, Phillip III, Cosimo I and Ferdinando Ruccellai. It was they he aimed to serve with his works, appealing to their capacity to act in war with Christian morality, combining theory and practice and applying a new definition of engineering understood as the basis for effective military action. The titles of his works constituted a declaration of intentions, as were the terms in which he addressed a readership interested «in all manner of noble disciplines [...] primarily in mathematics and the knowledge of the matters of war»⁷. That provided the backdrop for his five treatises⁸, which targeted not only princes and noblemen, but also «[...] individuals who have had occasion to philosophise, thereby improving the utility of existing things and inventing new ones»⁹. Perhaps for that reason he attributed the measuring instrument of his own invention presented in 1605 in one of his works with a dual purpose, utility and entertainment, so that it might satisfy the curiosity of «[...] those studying such things at their desks and in their studies»¹⁰ [FIG. 1].

The inherent interest in the biography and career of an author who managed to publish his works at the same time as such renowned engineers as B. Lorini, G. B. Belluzzi, C. de Rojas, G. Maggi, E. de Bar-le-duc, G. Busca o G. Altoni and A. Lupicini (many of

whom were cited by Fiammelli) is heightened by the data in the historic record. Despite its fragmentation and occasional contradictions, that record affords a view of the career of someone who frequented circles both diverse and stimulating: mid-sixteenth century Florence; the siege of Malta against the Turks and of Maastricht under the orders of Alexander Farnese, in whose service he also participated in reconnaissance at Rouen; Counter-Reformation Rome; and the Galilean School at Padua. Fiammelli himself sprinkled his narratives with descriptions of those scenarios, sketching an autobiography rife with courtier rhetoric in which he claimed to be the perfect prototype of a professional playing a key role in the practice of war and military engineering at the turn of the sixteenth to the seventeenth century¹¹. His was the role of the soldier acting as a mathematician of war and attempting to serve a number of rulers with sword and pen in the struggle against the Turks and Lutheranism, adopting the multiple identity announced on the cover of his books: «Florentine, mathematician, theorist and practitioner».

The scant reference to such a suggestive career in bio-bibliographies of military engineers by authors such as A. Possevino, P. Manzi, L. Marini, V. Ilari, M. D'Ayala or C. Promis is surprising¹². Most do little more than reproduce the data furnished by Fiammelli himself, and only partially at that. Nonetheless, all list the works written and submitted to printers¹³, even though the Florentine's contributions to military engineering were neither particularly significant nor innovative. In *Il principe difeso* he copied part of the content and illustrations of the incomplete treatise of fellow Florentine B. Puccini, disciple of G. B. Beluzzi, which must have been available to sixteenth century engineers

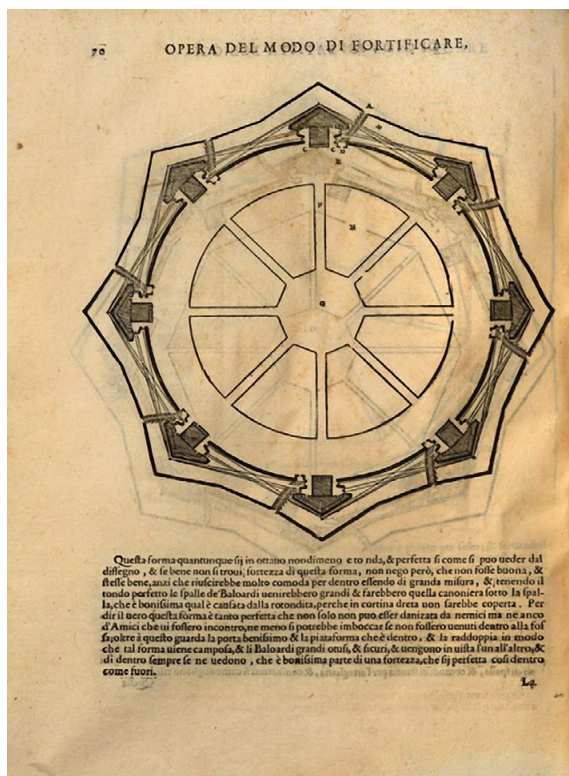


FIG. 2 GIOVANNI BATTISTA BELICI, *Nuova inventione di fabricar fortetze*, 1598, Venice, Tomaso Baglioni, f. 70. Design for an octagonal fortress.

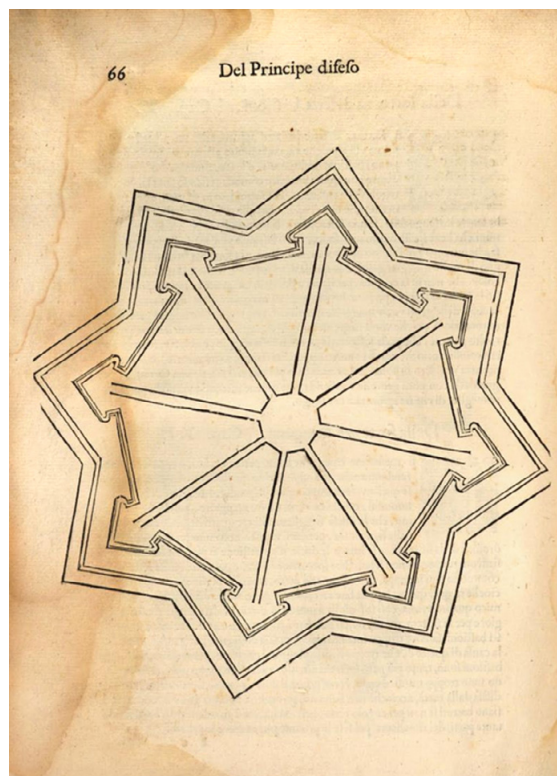


FIG. 3 GIOVANNI BATTISTA FIAMMELLI, *Il principe difeso*, 1604, Rome, Carlo Vullietti, f. 66. Design for an octagonal fortress.



FIG. 4 CESARE D'EVOLI, *Dell'Ordinanze e bataglie* (frontispiece), 1583, Rome, Antonio Blado.

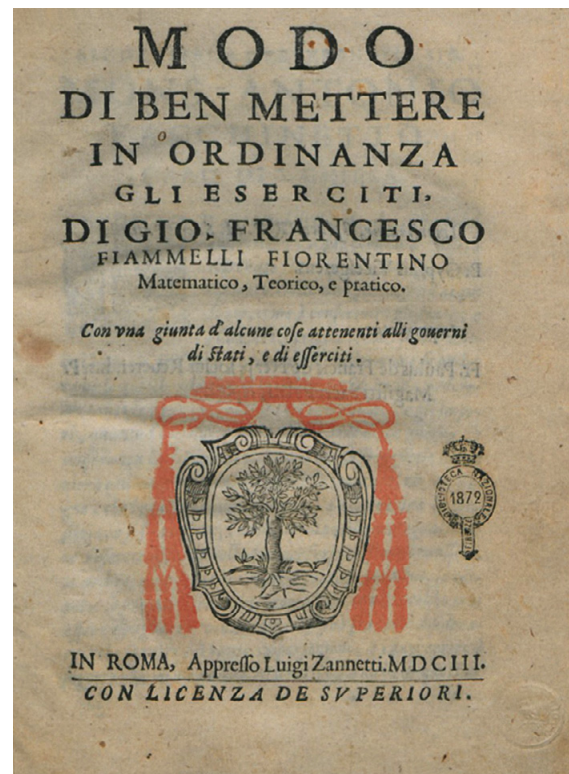


FIG. 5 GIOVANNI FRANCESCO FIAMMELLI, *Modo di ben mettere in ordinanza gli eserciti* (frontispiece), 1603, Rome, Luigi Zannetti.

and architects engaging in military architecture, as well as courtiers interested in the subject¹⁴ [FIGS. 2 and 3]. He based his *Modo di ben mettere in ordinanza gli eserciti* on a study published a few years earlier by Cesare D'Evoli and dedicated to Alexander Farnese under the title *Dell'ordinanze e bataglie* (Rome, 1583). With *La riga matematica* in 1605 he attempted to join company with the many authors who, since the late sixteenth century, had published works on the invention of new measuring instruments, building on progress in geometry, arithmetic and optics¹⁵ [FIGS. 4 and 5].

We know that Fiammelli was Florentine, for he himself made it be known on many an occasion in his writings, and because that is how he is shown in the sources consulted. His date of birth is uncertain, however, although if, as may be presumed, he was born around the fourth decade of the sixteenth century¹⁶, he would have been well acquainted with a city populated by a considerable number of military architects and engineers, some of whom, such as G. Maggi, B. Lanci, G. Carmeini and B. Buontalenti, contributed significantly to theory and practice¹⁷. His first and most direct contact with the military nonetheless came through his father, Girolamo Parimenti, a soldier who had fought in the Battle of Lepanto and who, as a man of some academic education, in 1560 wrote *I quesiti militari*¹⁸, a piece in Latin on military tactics that Fiammelli himself recovered, translated into Italian and dedicated to Fernando Ruccellai, after converting it into a treatise lying somewhere between political theory, military tactics and science¹⁹. In it religion, justice and engineering applied to warfare became «the foundations and pillars on which the machinery of state and kingdom rests»²⁰.

But having been first a soldier only in later life a theorist, Fiammelli had learnt the principles of the science and engineering of fortification, artillery and military tactics. His first direct experience with war came in 1565, when he participated in the siege of Malta against the Turks²¹. In 1579 the historical record has him in Flanders, where he took part in the siege of Maastricht under the orders of Alexander Farnese and later in reconnaissance in Henry IV's attempt to take Rouen²². It was after Farnese's death in 1592 when, with no ruler to serve, Farnese decided to return to Italy and more specifically to Rome. In 1602 he joined the congregation of Piarist Fathers where he studied mechanics, mathematics and fortification, after retiring from his military career²³. Based on that career and his war experience, he wrote his five books, which were widely circulated. The last, published in 1606, seems to have concurred with his relocation to Padua where he taught mechanics and fortification²⁴ and where, according to V. Ilari, he established bonds with the Galilean school²⁵. Galileo, it may be recalled, delivered lessons in the Padua studio in 1592 and 1593, when he seems to have written his first treatise on military architecture. The Florentine Piarists, in turn, constituted a substantial group of Galilean disciples, some of whom became prominent engineers and mathematicians²⁶.

Little else is known about Fiammelli's later life. The few facts on record refer to his interest in earning the respect of prominent rulers and princes through his oeuvre, resorting to the influence of intermediaries such as the Florentine grammarist based at Rome Francesco Serdonati, whom Fiammelli must have known and whom he took as a reference in some of his essays²⁷. He also secured the support of Cosimo II de' Medici, Belisario Vinta, highly reputed in contemporary political and scientific circles, to whom he sent a copy of *Il principe cristiano guerriero*²⁸ through Serdonati, capitalising on the latter's position as the Duke's literary purveyor. In 1604 he did the same with *Il principe difeso* and *Il modo di ben mettere in ordinanza l'essercito*, forwarded to Cosimo II with a letter, «attesting to my desire to both be useful to posterity and to honour my Prince»²⁹. Apparently around that time, specifically in 1606, while living in Padua, he sent another of his texts, *La riga matematica*, to Vincenzo Gonzaga, Duke of Mantua³⁰, as part of his apparently successful campaign to disseminate his treatises on theory. Some years later, in 1613, Count Fazio d'Urbino requested information on the Florentine through Paolo Beni Candiottio, mathematician and professor of fine arts at Padua. Candiottio described Fiammelli in rather unenthusiastic terms as a Florentine friar, an engineer at Flanders, who «old and poor» engaged in private lessons on «mechanics and other things related to mathematics and in particular to fortification»³¹. Not much else is known about the latter years of Fiammelli's life and career, beyond the fact that he continued to teach mathematics and fortification at the Piarist schools that he apparently founded in Florence (1614) and Bologna (1616), patterned after the one at Rome³².

Indeed, Fiammelli's training and career positioned him in a fascinating professional time-space, just as the archetypical «fortificatore», so closely identified with practice, began to co-exist with another type of experts: professionals who, although mastering the use of machinery, artillery and military tactics learnt on the battlefield, were able to speculate and theorise on technical questions applied to engineering thanks to their command of the principles of geometry, arithmetic, mathematics and optics³³. They constituted a cross between two models: one described by Giuseppe Orologi, who in 1565

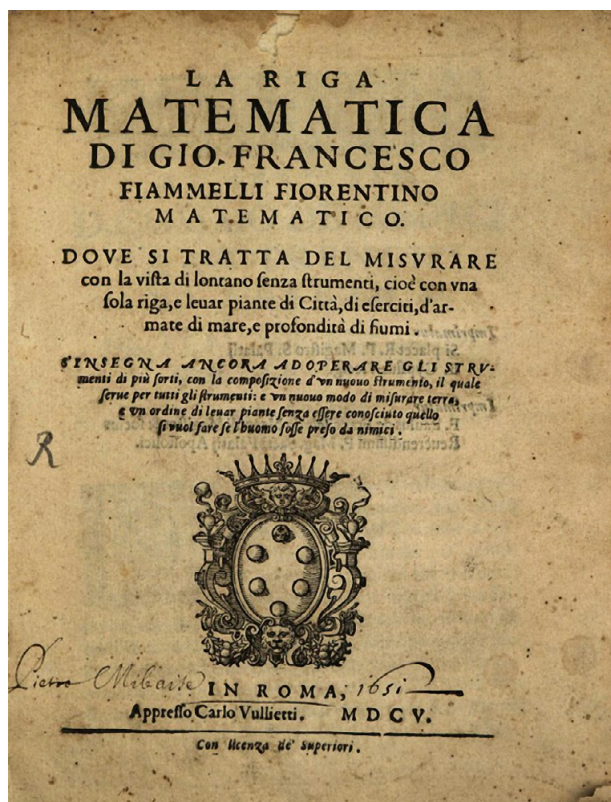


FIG. 6 GIOVANNI FRANCESCO FIAMMELLI, *La Riga matematica* (frontispiece), 1605, Rome, Carlos Vulletti.

of war, practising for many years as engineer under the insufficiently lauded Alexander Farnese, Duke of Parma, in the Low Countries where I had the opportunity to see and take note of many things relating to that subject»³⁸. A few lines below, in an attempt at personal identification, he claimed to be a follower of Gabrio Busca's *Trattato della espugnatione et difesa delle fortetze* (Torino, 1585 and 1598). Fiammelli, however, lacked the training needed to engage significantly in military architecture or engineering. On only one occasion of the many in which he alluded to his professional activity did he mention his ability to draw ground plans. That was in 1596 when he was sent to Ferrara «as an engineer» to show Cardinal Pietro Aldrobandini, in the presence of Clement VIII, how to make a plan drawing for a fortification using Euclidian geometry³⁹. There is no reason to believe, however, that his role was ever more than that of mere military mathematician or engineer-soldier. Nonetheless, he claimed to have acted as a mechanic, designing a way for a vessel to navigate the Tiber without wind or propel a galleys without oars⁴⁰. He also said he invented a method to measure distances and make Euclidian geometric drawings with an instrument unrivalled in its simplicity by any others in place at the time: his *riga matematica*. He envisaged his eponymous treatise, dedicated to Cosimo I de' Medici, as an exaltation of the military action pursued by that *Serenissima Casa* through the use of technology applied to war⁴¹ [FIG. 6].

In his oeuvre Fiammelli afforded his readers a model of political and military action based on the Counter-Reformationist principle that the State could only defend itself through war. And successful defence depended on the prince's virtues⁴². Building on that

defined Camillo Orsini as the archetypical professional for whom practice was the essence of the military engineer's endeavour³⁴; and the other propounded by those who, like Bar-le-Duc, B. Lorini or G. Belluzzi, contended that military architecture merited the category of *scienza* based on the application of ingenuity³⁵. The latter attributed to engineers the capacity to conduct warfare or write treatises, in addition to building on their battleground experience³⁶. Such endeavour would always be governed by the use of intelligence, according to Lorini, as the «...surest and most genuine path that can be followed to determine and properly build the body of the fortress»³⁷.

Fiammelli shared that same outlook, for at the beginning of *Il principe difeso* he defined himself as «mathematician, expert in the things

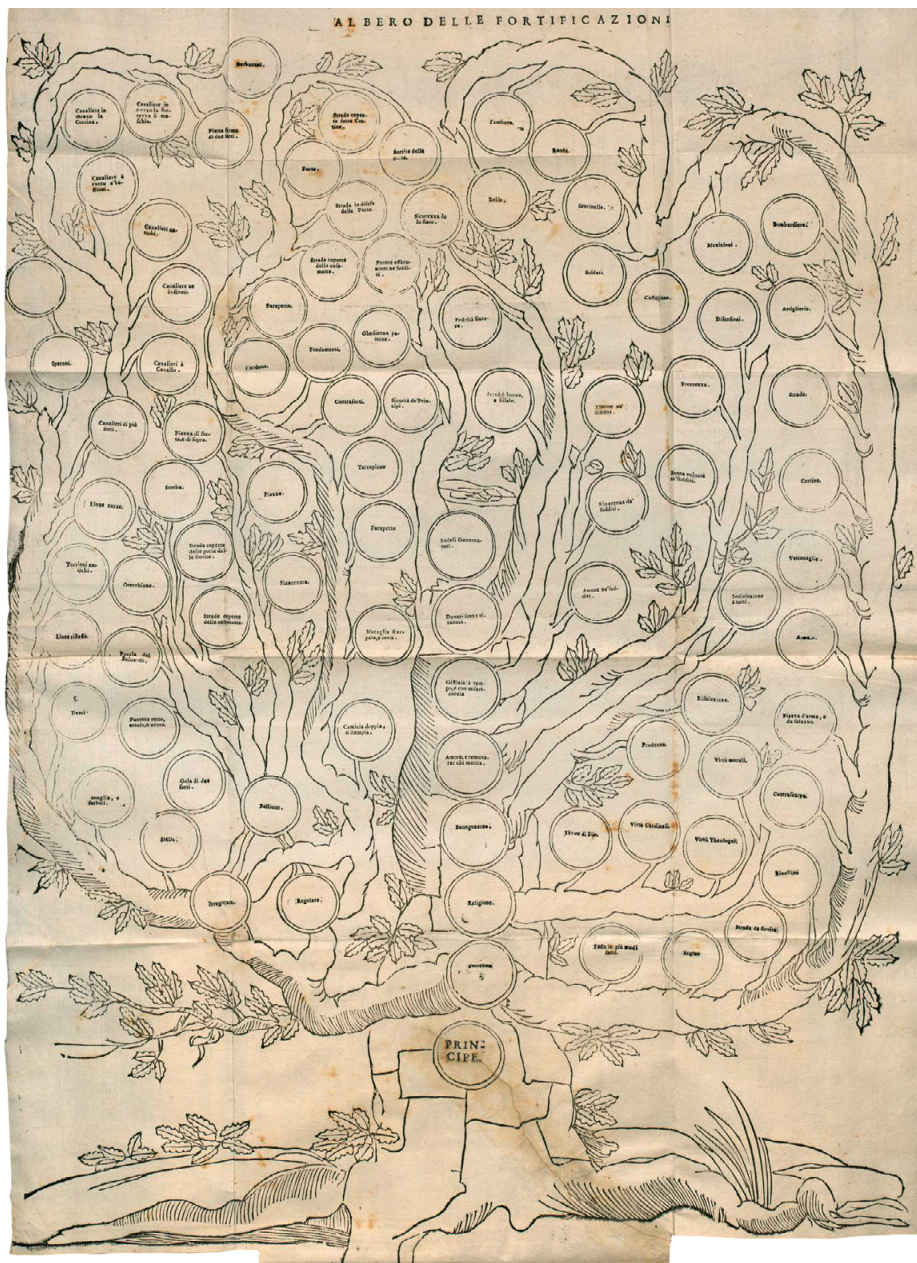


FIG. 7
GIOVANNI
FRANCESCO
FIAMMELLI, *Il prin-
cipe difeso*, 1604,
Rome, Carlo Vu-
lletti. «Albero delle
fortificazioni».
ETH-Bibliothek
Zürich, Rar 992 q.

premise he established a rational scheme for war and politics which, among others, would have implications for his interpretation of engineers' purpose. The profession was now viewed in the light of the modern idea of war as a political event, an idea that materialised as part of the fortification tree included by Fiammelli in *Il principe difeso*. This drawing, highly exceptional in treatises on military architecture, depicted a tree with branches representing the various disciplines of military science, patterned after Ramon Llull's tree of science. Its structure, in which the trunk was the prince, included the key actors in a State governed by warfare, alternating political references with those characterising military architecture⁴³ [FIG. 7].

That tree was in fact the visual materialisation of the structure that Fiammelli had described in *Il principe cristiano guerriero*, in which he established the professional ap-

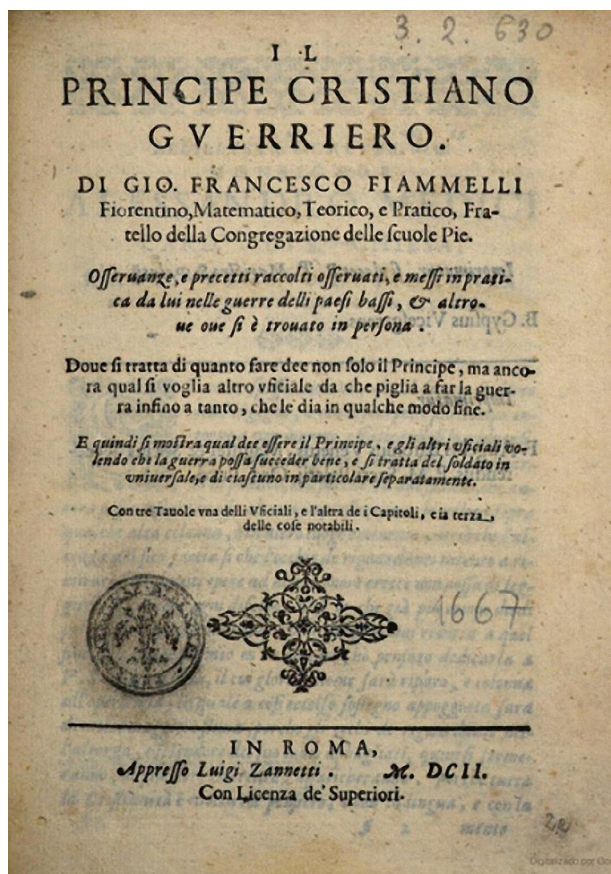


FIG. 8 GIOVANNI BATTISTA FIAMMELLI, *Il principe cristiano guerriero* (frontispiece), 1602, Rome, Luigi Zannetti.

titudes and skills to be demanded of anyone participating in the State's political or military corps and included engineers in the latter. The prince, the trunk of the tree, was to be a devotee of the true religion and in possession not only of the cardinal and moral values, but also of an «understanding of the letters and science of arms»⁴⁴, which for Fiammelli meant being conversant in history and geography, the latter as an imperative to a working knowledge of the site to be fortified and defended. Branching off the trunk was the military, beginning with the general, for whom Fiammelli proposed the Colonna, Orsini and Farnese families as exemplary princes of war prince, contending that generals should be of noble birth and of the same nationality as their soldiers. The next rank would be held by the captain, who was to know engineering, understood to mean mathematics and geometry⁴⁵. On a par with the captain

would stand the field marshal, who was to have a command of law, sacred scriptures, history and geography, whereas other officers were to have a basic knowledge of measuring instruments, fortification and perspective [FIG. 8].

The military was supplemented with a political corps comprising ministers and advisers, including jurists, philosophers, theologians, historians and experts in mathematical theory and practice. All were to be prudent, loyal and benevolent. The list also included spies, to whom Fiammelli attributed significance in *Il principe cristiano guerriero* to a level of detail formerly unknown in this type of political-military literature⁴⁶. They were to be men of confidence who, «gathering information on everything under other pretexts and exhibiting other purposes»⁴⁷, would be able to examine a country closely, furnishing detailed information on its lands, government, population and defence systems. Most importantly, they would be able to make drawings «not only of the metropolitan city, but of the entire state, in a recognisable and visible rendering of the condition of the country... even though such matters are largely incumbent upon the field marshal, the engineer and the general of the artillery». Fiammelli's description embraced the notion and profession of the engineer-spy, whose training included a command of geometry and mathematics, needed for territorial depiction⁴⁸.

Alongside spies, Fiammelli envisaged ambassadors as leading actors. They were to be the «apple of the prince's eye», loyal, prudent, honest and modest, but with an elegance

to conduct war. That formed part of another of the recurrent themes in his writings, and in most other contemporary treatises: the union of theory and practice, of science and experience. «Practice alone without theory», he contended, «is highly prone to err»⁵⁴. For Fiammelli, it will be recalled, the ideal of the engineer-soldier was associated with a tradition torn between two premises, one deeming experience to be the grounds for understanding the art of war. The other regarded that endeavour as a science indispensably calling for the application of engineering principles, with political and military action concurring in their esteem for technical progress as part of a new outlook on military science⁵⁵. In his works the Florentine writer exalted the union of those two principles, continually drawing from his own experience to allude to the need to resort to geometry and mathematics, often in conjunction with instructions for battlefield strategy.

In that vein, Fiammelli extolled the image of the prince and gentleman conversant in theory and practice, such as Gonzalo de Córdoba and Cardinal Giovan Antonio Facchineto (Innocence IX), to whom he dedicated his *Modo di ben mettere in ordinanza gli eserciti*. Surprisingly, however, he did not explicitly recommend mathematics and geometry training for princes, unlike most other authors of military studies⁵⁶. He did advise them to always have a good mathematician, someone he called a «public mathematician», at their side, for his work would enhance their reputation. More interesting still, he enumerated the skills that such a mathematician should have by listing the duties he should perform, establishing a prevalence of theory over practice in this case that he did not always sustain with the same conviction:

«[...] engages in fortification and siege, perspective and arithmetic, secrets of machinery and artillery and similar things necessary and useful both to the republic and to architecture, and is aware of those that his discipline renders beneficial [...] and being theorists they quickly assimilate practice and seeing themselves appreciated will always investigate new inventions [...]»⁵⁷.

Mathematicians should also engage in disseminating Euclidean principles, as Fiammelli himself apparently did, teaching «not only artillerymen, but all those who wish to engage in that science, which will result in many theorists [...] hence those who later engage in fortification and siege will be good war engineers, and those who engage in architecture and other arts will be good for the city [...] and others will engage in machinery and things of interest, all of which will be most useful for a state and for war»⁵⁸

[FIG. 10].

The essential role attributed by Fiammelli to engineers positioned them above all other actors. And although he deemed that all officials should «have some knowledge of fortification and siege, of plan drawing, of the abacus and similar things needed to reconnoitre a site, of digging trenches and if they want describe the ground plan well, they must know a little about perspective and drawing and should wage war when the occasion merits», he recommended them all to seek the support of a good engineer «who will be of more than little use to them»⁵⁹. Engineers, for whom he demanded attributes such as loyalty to the prince, honourability, humility and patriotism, were for him among the most significant actors, even asserting that «of all the trades of war, that of engineers is

FIG. 10 GIOVANNI FRANCESCO FIAMMELLI, *Il principe difeso*, 1604, Rome, f. 10. Proposition VII.

of greatest importance, for without them nothing can be done well»⁶⁰. Their role included travelling, writing reports and serving as a bridge between the worlds of political and military action, theory and practice, which entailed listing all the places visited and their characteristics to furnish the captain with the *disegno* to which he should conduct the battle. From a perspective informed by soldierly tradition, he called for the union of theory and practice which he deemed to be imperative for territorial defence. Fiammelli acknowledged that only those with «an understanding of mathematics» could make plan drawings of a State's lands, a priority he assigned to engineers. He dismissed the participation in this task of architects or painters, no matter how good, «because ornate architecture is as different from military construction as night is from day» and because the prince, said Fiammelli, has no need for painterly effects, but to know his lands to be able to defend them, for «as soon as [the perfect engineer] sees the need, he finds the remedy»⁶¹.

The treatise published in 1605 entitled *La riga matematica*, musing on that idea, describes Fiammelli's efforts to adapt to new times and their need for solutions that transcended mere praxis, attesting to his ability to meditate on technical issues that would afford the ruler genuine formulas to ensure State integrity. With his measuring instrument, Fiammelli actually aspired to become one of the many engineers and mathematicians who claimed to have invented new instruments of similar characteristics, applied to military engineering. There was no better way to confirm that the union of theory and practice, materialising in this case as the need for measurement, was imperative to attaining a knowledge and command of the land through science and engineering, ultimately intended for the ruler. Here Fiammelli offered his invention to Cosimo I de' Medici, in all likelihood envisaging the esteem he would receive from whom Fiammelli deemed to govern the perfect State and who had already shown an interest in technical experimentation applied to war as part of his State politics. That may explain his posturing in this work as an author writing from both perspectives, theory and practice, a scholar and theorist who meditated on «geometric proportion», willing to remedy the errors seen



on the battlefield with the invention of an instrument for making drawings «using Euclidean principles». His self-portrayal was nonetheless also of a man with battlefield experience, as described in his essays, where he narrated his participation in acts of war in which success or failure, he always contended, was the result of the right or wrong application of the union of theory and practice. He claimed to combine practice with intellect, the two elements that he believed should characterise the professional he referred to indistinctly as practical *fortificatore*, war mathematician or military engineer. Fiammelli consequently advocated for acknowledgement of the acumen characterising the author himself and many others who comprised the professional scenario of contemporary engineering. In his oeuvre, he managed to enrol them all in a premise on political theory in which theory and practice, science and experience, were presented to the ruler as the keys to State governance.

NOTES

1. ILARI, 2012, pp. 135-164.
2. CAMPILLO, 2008.
3. FIAMMELLI, 1604, pp. 1-2.
4. FIAMMELLI, 1605, p. 47.
5. Of the 123 works listed by A. Possevino in the Venetian edition of the earliest known military bibliography (*Elenchus aliquorum qui scripsere de re militari aut ad eam spectantia*), Fiammelli appears as one of the 20 authors associated with technical, strategic or tactical issues. POSSEVINO, 1603, vol. I, lib. V, cap. 6, pp. 208-211. See ILARI, 2012, p. 135.
6. D'ORGEIX, 2012, p. 4.
7. The original reads: «con ogni sorte di nobile disciplina...principalmente nelle matematiche en nelle cognizione delle cose di guerra». FIAMMELLI, 1604,, dedication to Philip III.
8. *Il principe cristiano guerriero* (Rome, 1602 and 1606), *Modo di ben mettere in ordinanza gli eserciti, con una giunta di alcune cose attenenti agli governi di stati e di eserciti* (Rome, 1603), *Il Principe difeso* (Rome, 1604), *La riga matematica* (Rome, 1605) and *I questi militari* (Rome, 1606).
9. The original reads: «... huomini privati che hanno dato occasione di filosofare e col mezzo di quelle trovare cose di maggiore utilità e d'invenzione». FIAMMELLI, 1602, p. 3.
10. The original reads: «...a quelli ancora che studiano queste cose dentro delle camere e dentro a gli studi loro...». FIAMMELLI, 1605, p. 58.
11. MOLTENI and PÉREZ NEGRETE, 2018, pp. 165-172; BIRAL and MORACHIELLO, 1985.
12. MARINI, 1810, p. 53; PROMIS, 1875, pp. 736-741; MANZI, 1976, nota 28; ILARI, 2012, p. 135. Also listed by NEGRI, 1722, p. 255; VIGANÒ, 1994; D'AYALA, 1869, pp. 71-110. Reference on p. 30. BOCCARDO, 1875, p. 658.
13. PROMIS, 1875, p. 737.
14. Both features of Fiammelli's treatise were, according to D. Lamberini, «una brutta copia con poche variante e un apparato iconográfico piuttosto debole» [a gross and poorly illustrated copy with scant variations] of B. Puccini's text, denoting the stagnation that characterised contemporary military engineering. Along with Fiammelli, other military architects and engineers took their inspiration from Puccini, including Giacomo Lanteri, Bartolomeo Ammannati, Bonaiuto Lorini, Giorgio Vasari el Giovane and Galileo Galilei. LAMBERINI, 1990, pp. 130-133. Quotation on p. 143.
15. In 1595 Bartolomeo Romano published *Proteo militar* in Naples, in which he described the use of a tool similar to the one later developed by Fiammelli. Other works published years later included *Le operazioni del compasso geometrico et militare* (1606), by Galileo Galilei, *el Regimiento de Navegación* (1606), by Andrés García de Céspedes, *Libro de instrumentos nuevos de geometría muy necesarios para medir distancias y alturas sin que intervengan números, como se demuestra en la práctica* (1606), *Della Corona, o Palma militare di Artiglieria*, by Alessandro Capobianco (1610), as well as writings by V. Pessuti, V. Oznam and others.
16. No documentary proof of his date of birth is presently available, although contemporary texts referred to him as «vecchio et povero» [a poor old man] living at Padua in 1613 and others reported that in 1616, at the age of 76, he donated his oeuvre to an institute that had ensured that it would carry on his life's work after his death. *Miscelanea di Storia italiana*, 1874, p. 739, and GIACOMI, 2013, p. 83.
17. *Architetti*, 2007.
18. PROMIS, 1875, p. 737.
19. BARGILLI, 1900, pp. 1-18.
20. The original reads «fondamenti e colonne alle quali s'appoggia e con le quali si sostiene la gran macchina delli stati e dei regni». FIAMMELLI, 1606, p. 7.
21. PROMIS, 1875, p. 737; FIAMMELLI, 1604, p. 3.
22. «... oltre ciò, ridondava allora Firenze di matematici e d'ingegneri di guerra, sinchè l'istruzione non gli poté mancare, sinchè la fama di Alessandro Farnese, non lo chiamò alle guerre di Fiandra, e forse pur anche ch'egli abbia accompagnato colà il Farnese, il quale nel 1578 appunto si cecò al comando de 'cattolici» [...more than that, as Florence at the time boasted many a war mathematician and engineer, he could hardly have been without instruction until he was drawn by Alexander Farnese's fame to the war in Flanders, perhaps accompanying Farnese, who had taken command of the «cattolici» in 1578]. PROMIS, 1875, pp. 737-738.. Fiammelli himself narrated his participation in both campaigns. FIAMMELLI, 1602, p. 231, and 1604, p. 174.
23. On the frontispiece to *Il principe cristiano guerriero* in 1602, Fiammelli is shown as «fratello delle congregazione delle Scuole Pie» [friar of the Pious School congregation]. The author himself gave an account of his conversion from soldier to friar. FIAMMELLI, 1603, p. A1v. ARTESE, 2005.
24. *Miscelanea di Storia italiana* (1874), vol. 14, Torino, Fratelli Bocca p. 739.
25. «...Dotato (Fiammelli) di diretta esperienza militare, si definiva matematico, teorico e pratico e fu uno dei tramiti tra la scuola galileiana e l'ordine degli Scolopi fondato da Giuseppe Calasanzio, al quale fu marginalmente affiliato» [...(Fiammelli), having direct military experience, defined himself as mathematical theorist and practitioner and was one of the links between the Galilean school and the Piarist order founded by José Calasanz, with whom he was marginally associated]. ILARI, 1981, pp. 215-221. L. Marini, in turn, in his *Biblioteca storico-critica di fortificazione permanente*, alluded to Fiammelli as «matematico fiorentino della congregazione delle Scuole Pie, il quale s'impiego nelle guerre de'Paesi Bassi aavore della Casa d'Austria» [Florentine mathematician with the Pious School, who took part in the war against the Low Countries in the employ of the House of Austria (Habsburgs)], and listed four of his writings published between 1602 and 1604. He did not mention *La riga matematica*, published in 1605. MARINI, 1810, p. 53.
26. BUCCIANTINI, 1989.

27. More specifically, Fiammelli took the treatise *Costumi de Turchi e modo di guerreggiarli. Ragionamiento inédito de Mess. Francesco Serdonati* (1879), Faenza, Givani Baltrandi as one of his primary sources of information for descriptions of the «cases of war» with which he illustrated his discourse. The book is an edition of the Magliabechian codex (Class XIII, No. 18). Fiammelli must have sought the acquaintance of Serdonati, a Florentine grammarist, in Rome, where he lived from 1602 to 1615.
28. ASF, Arch. Med., 916-701. The reference is included in: *Lettere inedite*, 1872, pp. 19-20.
29. ASF, Arch. Med., 923.679. In *Lettere inedite*, 1872, p. 22.
30. The text appears to have been sent in this case through editor and typesetter Gaspare Bindone, who handed it to Mantuan editor Francesco Buscho for delivery to the Duke. ASMn, AG,b. 1168, fol. II, c. 197. The document is published in: FURLOTTI, 2000, p. 120, doc. 166.
31. The original reads: «*ingegnere in Fiandria'... vecchio e povero...le mecaniche e altre cose pertinenti alla matematica et in particolare alla fortificatione*». *Miscelanea*, 1874, p. 739.
32. GIACOMI, 2013, p. 83.
33. Engineers of the same generation such as B. Lorini, G. Beluzzi and J.E. de Barleduc shared this professional profile. BIRAL and MORACHIELLO, 1985, pp. 39-48. LAMBERINI, 1988, p. 50.
34. In his praise of Camilo Orsini's military prowess, G. Orologi mentioned his firm defence of the idea that he «...*chi non è soldato e chi non si è trovato più volte così a pigliare i forti delle Terre dei nemici, come ancora a difendere quelle del suo Principe, imparandosi molto meglio e più perfettamente questa professione con la pratica della guerra...che non si sa con la theorica e con i compasi tirando nelle camere linee sopra i fogli a modo loro...*» [...he who is not a soldier and has not therefore ever engaged in taking the enemy's forts or even in defending those of his prince, who would learn the profession much better and more perfectly by participating in war... than with theory and a compass drawing lines on a sheet of paper at a desk in his way...] cannot be a good war architect or engineer. HOROLOGI, 1565, p. 129.
35. G. Lorini contended, immediately before mentioning his experience in the War of Flanders, that «*oltra scienza non si trova (la Architectura militar) che come questa assolutamente dipenda della vivacità e altezza dell'ingegno... tale che del retto giudizio d'un buono Architetto Militare dipende non solo la salute della nostra vita, ma la conservazione o distruzione dei Regni*» [no other science depends as much as (military architecture) on the acuity and intensity of ingenuity... so much so that not only our health, but the conservation or destruction of the kingdom, depends on the rightful judgment of a good military architect]. LORINI, 1579, (dedication to the reader).
36. MOLTENI and PÉREZ NEGRETE, 2018, pp. 165-172.
37. The original reads: «...*più sicura e real estrada che osservar si possa per determinare e con buon ordine fabriacare il corpo della fortezza*». LORINI, 1579, (dedication to the reader).
38. The original reads: «*esperto matemático in cose di guerra, la quale ho esercitato molti anni servendo per ingegnere al non mai abastanza lodato Alessandro Farnese, duca di Parma ne paesi Basi, ove hebbi comodità di vedere e notare molte cose a tale soggetto appartenenti...*». FIAMMELLI, 1604, p. 2.
39. FIAMMELLI, 1603, p. 2, and 1605, p. 46.
40. «*L'anno 1596 ritrovai un modo di far andare una nave carica senza vento e una galea senza remi, e va il moto più gagliardo e più veloce assai che con essi remi e con venticinque ovvero trenta huomini soli, e ancora quando è andata innazi non possa tornare addietro, se non vuole quello che guida il timone: e quel medesimo ordigno serve ancora per far muovere detto ponte contro la volontà del nemico, e con tanta velocità che non possa haver tempo a tirarvi dentro, e detto anno lo provai nel Tevere di Roma contro la corrente dell'acqua*». [In 1596 I found a way to make a cargo ship sail without wind and galleys without oars more smoothly and rapidly than with those oars and with twenty-five or thirty men, and even when sailing forward it could not be turned back unless the pilot so wished: and that same mechanism could even serve to move the said bridge against the will of the enemy and with such speed that there would be no time to seek refuge and that year I tested it on Rome's Tiber against the current.]. FIAMMELLI, 1606, p. 126.
41. FIAMMELLI, 1605, (dedication).
42. ILARI, 1981, pp. 215-221.
43. D'ORGEIX, 2012.
44. The original reads: «*cognizione delle lettere e la scienza delle armi*». FIAMMELLI, 1602, pp. 9-10.
45. *Il «perfetto capitano»*, 1995-1997, pp. 302-303.
46. CÁMARA MUÑOZ, 2018, pp. 51-52.
47. The original reads: «*sotto altri pretesti e mostrando havere altri fini ad informarsi di tutto*», FIAMMELLI, 1602, p. 53.
48. The original reads: «*non solo della città metropolitana, ma di tutto lo stato, e fare riconoscere il sito e vedere in che modo sta il paese...benche gran parte di queste cose toccino al maestro de campo generale, all'ingegnere e al generale dell'artiglieria*». Idem, pp. 53-54.
49. Idem, pp. 297-298.
50. The original reads: «*tratatti e stratagemi e invenzioni strane e stravagantie...*». Idem, p. 296.
51. «*Il principio dunque, e fondamento reale del fortificare, e quanto alla scienza viene da Euclide, e la pratica parimente nel disegnare le fortificazioni, e metterle in opera dal medesimo si prende*». [The principle, then, the veritable basis of fortification, is taken from what science owes to Euclid, as are fortification design and construction]. FIAMMELLI, 1604, p. 45.
52. The original reads: «*opera molto curiosa e necessaria a gli studiosi e a tutti quelli che si diletano di tale professione (fortificatore)*», FIAMMELLI, 1602, pp. 259 and 268, and FIAMMELLI, 1604, p. 4.
53. FIAMMELLI, 1602 and 1604, p. 248.
54. The original reads: «*La pratica sola senza la teorica ... è molto sottoposta all'errori*». FIAMMELLI, 1602, pp. 17 and 118, 172 and 179.
55. ILARI, 2002; CÁMARA MUÑOZ, 2014; MOLTENI and PÉREZ NEGRETE, 2018.
56. *I Farnese*, 1997, p. 240.

57. The original reads: «che attenda alla fortificazioni e spugnazioni, prospettiva e aritmetica, segreti di machine e di artiglierie e simile cose necessaria e util alla repubblica, come ancora all'architettura, e tenga notizia di quelli che fanno profitto sotto la sua disciplina...che sendo teorici tosto apprendono la prattica, e vegendosi apprezzati sempre investigherano nuove invenzione...». A few pages later Fiammelli recommended that the prince should seek good engineers abroad if there were none in his principedom, advising that they should not be only theorists, of which he deemed there was bounty, but that they should also be experienced «delle cose di guerra» [in the things of war]. FIAMMELLI, 1602, pp. 33 and 36.
58. The original reads: «non solo a bomabardiere, ma a tutti quelli che volesero attendere a tale science, che in questo modo hará molti teorici...perciò che quelli che s'applicanno poi alle fortificazione e alle spugnazioni saranno buoni per ingegnere per la guerra, e quelli che s'applicheranno all'architettura e altre galanterie saranno buoni per la città ...e altri se applicheranno a machine e cose curiose, le quale tutte a uno stato e a una guerra saranno di molta utilità». Idem, p. 19.
59. The original reads: «havere qualche noticia della fortificazione, e espugnazione, di levare piante, d'abbaco e cose simili per riconoscere i siti, ordinare trincee e se vogliono bene descrivere una pianta e di mestieri che intendano un poco di prospettiva, disegnare e mettere in battaglia per ogni buona occasione... 'che non gli sarà di poco utile». Idem, p. 241.
60. The original reads: «fra tutti gli uficiali della guerra quello dell'ingegnere è importantissimo, e senza lui non si può fare cosa buona». Idem.
61. The original reads: «non si tosto vede il bisogno, che ha trovato il rimedio», Idem, pp. 63-64.

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Louis Nicolas de Clerville (1610-1677): a courtier in uniform in Seventeenth Century France

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Louis Nicolas Vardin, sieur de Clerville (1610-1677), better known under the name of «knight of Clerville» is, without a doubt, one of the most important military engineers from the seventeenth century in France; architect, «expert in fortifications» and hydraulic engineer, Clerville was also a talented soldier and an excellent sailor who took part in numerous terrestrial and naval campaigns in France and abroad. He was also an unparalleled cartographer who left an important body of work, conserved today in different archival holdings. His expertise and his «talents» fully played a part in the construction of the modern state. Collecting honours and titles at the beginning of his career – he was thus a knight of the Order of the Hospital of Saint John of Jerusalem, a sergeant major general and above all the first *Commissaire général des fortifications* [General commissioner of fortifications] of the kingdom, a royal office specially created for him by Mazarin in 1659 – , Clerville's influence on the field of warfare weakened after the assumption of personal power by Louis XIV in favour of the new rising star, Vauban (1633-1707). It is this latter episode, marked by the eviction of Clerville after the siege of Lille in 1667, which historiography has primarily retained, reducing Clerville's role to that of a mere unfortunate rival. Crushed by Vauban's renown, he has thus been forgotten by all. With the exception of the long article that Anne Blanchard devoted to him in 1998¹, his life remains surprisingly unknown in view of the immense amount of manuscript documentation which he handed down. Among these documents, there remain a considerable number of maps, plans and notes as well as very extensive correspondence exchanged between Clerville and different ministers during almost forty years, from the Thirty Years' War to his death. For a long time, the protégé of Mazarin (1602-1661), close to Nicolas Arnoul (1608-1674), intendant of buildings and counsellor to the king, and then to Nicolas Fouquet (1615-1689), superintendant of finances, Clerville also

maintained a close relationship with Colbert during the last two decades of his life (1619-1683).

If military engineers have rarely «held the most prominent positions» in court society during the seventeenth century, Clerville was certainly the exception. Close to the most important ministers in the reigns of Louis XIII and Louis XIV, acquainted with the most famous artists of his era, like Pierre Mignard (1612-1695) and Charles Le Brun (1619-1690), both first painters to the king, Clerville perfectly embodied the figure of a «creature» from the Ancien Régime, a man who, according to Furetière «is closely attached to a superior, to the person who has made him his fortune, to whom he owes his advancement»². Gravitating in the orbit of his successive protectors in a period of profound transformations, his career followed the tectonic movements of the masters with whom he was associated, closely replicating their own fortunes and misfortunes. Social advancement, fortune, setbacks, betrayal, fall... Clerville experienced it all during his life and suffered, perhaps with full force, the changes in influence and reigns.

This article is dedicated to this political and courtly facet of the profession of military engineer in the modern era, so rarely mentioned in the bibliographies. To reexamine these courtly relations makes it possible to convey an alternative interpretation of careers, not studied through the lens of military feats and architectures planned or built, but of a more intimate one, of the relations maintained with their protectors. This approach also makes it possible, in the case of Clerville, to avoid focusing, as too frequently happens, on his relations with Vauban which has considerably damaged the in-depth understanding of his work in favour of that of his twenty-year younger colleague who belonged, in many respects, to another generation. In focusing more closely on Clerville's contemporary peers by establishing a parallel between his «campaign» career and his career «in society» the aim is to shed a redeeming light by illustrating the potential of renewal provided by a study of the profession of engineer from the viewpoint of the society and culture in which it developed.

THE HISTORIOGRAPHIC MISFORTUNE OF AN ENGINEER CAUGHT BETWEEN TWO REIGNS

The reason that Clerville has been largely forgotten is due to several factors. Although it is true that he was eclipsed by Vauban's reputation, his period of activity also corresponds to a moment in the history of military engineers which has not been extensively studied. Born on 24th June 1610³, a little more than a month after the assassination of Henry IV, his official career began the year that Louis XIII died, to end in October 1677, during the first decades of the reign of Louis XIV. Thus in 1661, when Louis XIV began his personal rule of France, Clerville was already an old man. He belonged to the generation from the beginning of the seventeenth century, with an «old school» education, before Vauban started to restructure the service of fortifications in 1668. Mainly active at the changeover of two reigns, a man at the crossroads of different scientific and technical cultures, Clerville has escaped all major historiographic undertakings. He was thus born too soon to be mentioned in the bibliographic dictionary of the engineers from the reigns



FIG. 1 LOUIS NICOLAS DE CLERVILLE, *Carte topographique des entrées de Brest*, v. 1655. Paris, Bibliothèque nationale de France, Département des Cartes et plans, GE SH 18 PF 47 DIV 1 P 2.

of Louis XIV to Louis XVI published by Anne Blanchard in 1981⁴. He was also no doubt judged to be too tardy for David Buisseret to have given him a mention in his work *In-génieurs et fortifications avant Vauban*⁵. Eventually, it was his activities in planning, hydraulics, and coastal cartography, carried out from the 1660s on which have most attracted the attention of scholars. Several articles thus deal in isolation with his main urban planning works in Brest, Rochefort, Sète, Marseilles, and Toulon... [FIG. 1]⁶. What one retains is the work of a military engineer attentive to the topography and the sites as well as an excellent manager of fortification works. His theoretical models, in contrast, which he was later reproached for, were still inspired by those developed by the engineers

in the first half of the century, like Blaise de Pagan (1604-1665) or Antoine Deville (1596-1656). His hydraulic works and canals have been the subject of a chapter in the work by Chandra Mukerji, on the Two Seas canal⁷. It gives details especially on the expert planning mission carried out by Clerville in 1662 at the request of Colbert which marked a key moment in the conception of the canal. With regard to his coastal maps, they are still largely unpublished with the exception of some studies carried out on Saintonge and in the Gironde estuary⁸. It is in fact very little in respect of an international career, the diversity of projects and production and the central position occupied by Clerville in court society, a man who, for more than thirty years, rubbed shoulders with the elite of the kingdom both in Paris and in the provinces.

THE FIRST MECHANISMS OF SOCIAL ADVANCEMENT (1642-1644)

Although Anne Blanchard had had the project of publishing a biography of Clerville before her untimely demise interrupted the undertaking, many blind spots still exist⁹. Thus, we know neither his birth place nor his family origins. His patronymic, Vardin, is even omitted in most of the biographical information. One cannot help thinking, however, that his origins were modest as the instances related to them are rare. Clerville himself also seemed quite concerned to distance himself from them. From the first years of his career, he removed his patronymic from his signature, signing first of all «le sieur de Clerville» [Sir Clerville] [or sometimes Clairville], and later «knight of Clerville» after his nomination to the Order of the Knights of the Hospital of Saint John of Jerusalem in 1645. The information on his education is also sparse. It is however, possible to sketch the main lines by cross-checking the hand-written and printed sources. The former come from the national archives of Malta, which conserve an unpublished project on the fortifications for the city of Valletta, drafted by him and dating from the start of his career. This memoir, accompanied by particularly meticulous drawings detailing the layout of new fortified works, gives evidence of excellent theoretical knowledge of the art of bastioned fortifications¹⁰. This makes it possible to postulate that Clerville had received a solid education, most probably in one of the numerous private colleges that taught the rudiments of fortification to the young nobles, or learned in the field with a relative or peer as was the custom before the creation of the first military engineering school in 1743. The latter is a chorographic map of the relief of Auvergne which he published in Paris in 1642, with the printer Jean Boisseau (16 ??-1657), «illuminator to the king for geographical maps»¹¹ [FIG. 2]. This indicates, on the one hand, that Clerville was already familiar with printers publishing the new maps of the provinces in the kingdom. Boisseau who had just re-edited two ancient works, *Théâtre géographique* by Jean Le Clerc (1560-1621) and *Topographie française* by Claude Chastillon (1559-1616), must in fact have been anxious to update his stocks thanks to the contribution of young cartographers¹². It reveals, on the other hand, that Clerville, in contrast to Vauban who was a very poor draughtsman, practised drawing and field surveys from very early on. These two competences, indispensable for the reconnaissance of territories and the drawing of fortified cities, certainly influenced his further recruitment as engineer in ordinary in the presti-



FIG. 2 LOUIS NICOLAS DE CLERVILLE, *Carte generale des montagnes de la Haute auvergne*, Paris, Jean Boisseau, 1642. Paris, Bibliothèque nationale de France, Département des Cartes et plans, CPL GE DD-2987 (1353).

gious Mazarin-Français regiment, one of the six regiments established in 1644, in which Mazarin himself was a colonel. Added to these documents is a «letter» published in 1644, in the form of a eulogy in which Clerville awkwardly flatters Nicolas Arnoul, the new intendant of buildings and counsellor to the king, whose obscure *Histoire généalogique des familles royales d'Espagne* had just appeared¹³. One can here perceive Clerville's courtly facet from the start of his career. Just to read the first lines is enough to catch the tone:

«It is only necessary to see your beautiful work to understand that the princes on earth are truly the beams of divine essence, and that majesty attaches itself to them so powerfully that not only does it settle after their deaths on their names and their images, but it still throws adorable light and sacred dread in the souls of those who dare to touch their ashes and to cast their eyes on their tombs....»¹⁴.

These different sources are fundamental for clarifying the professional trajectory of Clerville which, and it is important to underline this, does not exactly follow the same path as that of his counterparts. Although he was very quickly praised for his exploits, Clerville was already taking advantage, at the beginning of the 1640s, of a large network of collaborators and protectors. He is different, for example, from Vauban who, through

a classical mechanism of military social advancement, had begun his career directly by enrolling in 1651 in the League regiment of the prince of Conde, two years before joining the royal circle.

A TALENTED SOLDIER AND A MAN AT ARMS OF EXCEPTIONAL BRAVERY

From his appointment in 1643, as an engineer in ordinary, and up until the siege of Lille in 1667, Clerville had been active in the main theatres of war. In particular, it is possible to follow his career, step by step, thanks to the numerous mentions of him in the contemporary periodicals and military biographical dictionaries¹⁵. *La Gazette de France*¹⁶ thus mentions him in 1643 at Avesnes [Avesnes-sur-Helpe, Belgium] and at the siege of Rocroi, then the year after in Germany, at the siege of Fribourg and in about twenty German fortified cities where he was made aide-de-camp. He then took part at the Eyalet of Morea in the Ottoman campaign in the Peloponnese as a knight of the Order of the Hospital of Saint John of Jerusalem. He was then fighting under the orders of Jean Armand de Maillé-Brézé (1619-1646) appointed in 1642 intendant and grand master of the navigation, and governor of Aunis and La Rochelle on the death of Richelieu. In October 1646, he was mentioned in the assault on the tower of Saint-Estèphe in the gulf of Telamon in the Tyrrhenian Sea before enrolling in the Italian campaign. He was then made mestre de camp. His bravery was again praised in 1648 on the occasion of the attack on the citadel in Piombino, of which the manoeuvres were etched by Stefano Della Bella (1610-1664), then at the siege of Cremona after which he was appointed maréchal de bataille [FIG. 3]. He appears again during the Franco-Spanish War waged by Louis XIV to retake the strategic cities conquered by the Spanish army. It was also in this decade that his collaboration with Vauban began. In November 1652 Clerville rose to the rank of maréchal de camp after having successfully commanded the siege of Sainte-Menehould, taken on 14th November by Louis II prince of Bourbon-Condé (1621-1686). Vauban was thus placed under his orders as a volunteer following his appointment by Mazarin as «an engineer and teacher of mathematics». This is how Vauban became, as he liked to recall, Clerville's «deacon»¹⁷. In 1656, Clerville conducted the siege of Landrecies and then, the following year, that of Montmédy.

Finally, he worked on the constructions erected in front of Oudenaarde in 1658 before progressively giving way to Vauban for the last sieges of the campaign. In 1659 after the taking of Dunkirk, Mazarin again honoured him establishing especially for him, and for the first time in history, the exceptional royal office of *Commissaire général des fortifications*, which granted him dual control both technical and financial, over the fortification works in the kingdom. Clerville was then at the height of his career. The signing of the Treaty of the Pyrenees in 1659, while limiting European conflicts, considerably extended his horizons. In the autumn of 1661, he made a first reconnaissance of the African coasts to prepare the fight against pillaging by the Barbary corsairs. He returned there in 1664 on the occasion of the disastrous «Gigery expedition» [Djidjelli in Algeria] where he conducted the engineering operations before the French forces beat a retreat¹⁸. Three years later, he again participated in the siege of Lille at the beginning of the War of Devolution in a particularly rivalrous context with Vauban whose recent successes had placed at the



FIG. 3 STEFANO DELLA BELLA, *Vue du siège de Piombino*, [1650]. Paris, Bibliothèque nationale de France, Département des Estampes et de la photographie, RESERVE QB-201 (40)-FOL.

forefront. Definitively evicted from the theatre of war on that occasion, it was his last siege. Clerville was then already getting old. From then on, he would devote himself mainly to cartographic and hydraulic works.

CLERVILLE: «THE BEST ENGINEER IN THE KINGDOM» (MAZARIN)

In parallel with this particularly productive military activity, Clerville was also known as one of the greatest construction engineers in the third quarter of the 17th century. A first class «fortifications expert», or more exactly «ingénieur de places» [on-site engineer] to use Vauban's expression, he planned and conducted many construction sites. Although he was already working on the fortifications of the kingdom in the 1650s (Landrecies in 1655, Valenciennes in 1656, Bergues and Oudenaarde in 1658¹⁹), his activity intensified after the signing of the Treaty of the Pyrenees when the constructions sites of fortified cities multiplied. The king sent him first to Nancy, then to Marseilles in 1661, before he began a life of incessant journeying following the confirmation of his appointment as *Commissaire général des fortifications*²⁰. From then on alternating planning, inspection and supervision of construction sites, Clerville travelled all over the kingdom modifying and radically modernising the plan of the existing fortified cities. In 1666, he rebuilt the



FIG. 4 NICOLAS DESJARDINS, *Plan de la citadelle de Marseille, de Saint-Victor et de quelque partie de la ville par Desjardins suivant le dessein de M. de Clerville*, v. 1661. Paris, Bibliothèque nationale de France, Département des Estampes et de la photographie, EST VA-13 (5).

port in Rochefort and established its arsenal. The following year, he undertook the foundation of the city and the new port in Sète, Languedoc²¹ constructed to serve as a fulcrum for navigation through the Languedoc canal, another large construction site that would occupy him from 1662 until his death. Evicted by Vauban from the citadel project in Lille in 1667, from 1668 on Clerville nonetheless still began the great construction site for the Saint-Jean fort in Marseilles, a city where he had already been responsible for the citadel's construction works eight years before [FIG. 4]. Apart from his role as a builder, Clerville also supervised numerous demolition sites, a field of superior technical expertise for engineers, although too often undervalued. During his career, he was also responsible for dismantling the fortifications of Nancy, of the destruction of the royal port of Marseilles judging the ornamentation too ostentatious, and then of the «razing» of the fortifications in Orange, the protestant stronghold, which had been held for a long time by the Orange-Nassau family in the Rhone principality.

CLERVILLE: THE «CREATURE» OF THE MINISTERS

Taken as a whole, Clerville's career was exceptional. Even if the «Lille episode» can be considered as a decisive turning point, it just marked an inflexion in his production which

was from then on more centered on the works which were the responsibility of Jean-Baptiste Colbert (1619-1683), who was the superintendant of buildings, controller general of finances, secretary of state for the navy and the king's household, and had the mission of defending the coasts of the old royal estates. A tireless worker, Clerville continued working in his construction sites until the twilight of his life. Thus, in July 1677, two months before his death, he asked again to do a «rough sketch» of the building project in Sète on which he had spent so much energy²². This flourishing career, although explained by his talents, was also due, as one can surmise, to his ability to attach himself to influential protectors. For almost forty years, Clerville managed to remain the engineer and advisor of ministers, resisting changes in reigns, in politics and surviving the great reforms in the reign of Louis XIV. During his whole career he relied on a network of protection. Although he had been noticed by Richelieu (1583-1642), his ascent was clearly associated with Mazarin who was his protector from the middle of the 1640s and openly promoted him in his correspondence from 1649 on. His letters, conserved in the department of manuscripts in the BnF, illustrate the esteem that the minister felt for him. He often talked of Clerville, wrote to him on many occasions, asked his advice on all the fortification works, congratulated him and recommended him to everyone. Thus, in 1657, Mazarin wrote to the marshall d'Aumont «I would ask you to say something about it to Clerville who will no doubt take all the advantages imaginable, as there is no one who knows more about it than him»²³. Due to his strong position, Clerville was even thought of for a moment as a diplomat and ambassador extraordinary in the framework of the fragile treaty concluded in England with Oliver Cromwell (1599-1685). Mazarin wrote the following to Cromwell in November 1658: «I have chosen the knight of Clerville to report on it [on the fort of Mardyck], not knowing anyone else more capable to serve the king in such matters, either because of the study that he has made of it or the experience that he has acquired during his different employments... I am sure that YSH will be even more pleased to hear him as all that he will have the honour of telling him and reporting to him is mainly for the good of his service and the glory of his name»²⁴. Although this project was not followed up, it nonetheless bears witness to the trust that Mazarin had in Clerville.

Their relationship was not always smooth however, as Clerville was far from being a servile «creature». Mazarin complained about him on several occasions underlining that his character was difficult and that sometimes he was not able to control him. But the tone of their letters always illustrates a great deal of mutual esteem. A relationship, in short, which was quite similar to that which Vauban would develop with Louvois some twenty years later. Clerville was certainly close to Mazarin and he frequented his personal library in Paris. In 1651, Gabriel Naudé, Mazarin's librarian, thus noted that Clerville, then on the eve of being appointed marshall of France, had asked him «where in the library were the maps and drawings of his eminence kept» so that he could make copies²⁵.

As a result, it is easier to understand how much the death of Mazarin in 1661 must have left Clerville in a fragile position. He had, however, anticipated this situation by extending over the years his network of protectors. Especially from the beginning of the 1650s, Clerville became close to a man who was at that time experiencing considerable social advancement, Nicolas Fouquet (1615-1680), a fervent defender of the Counter-

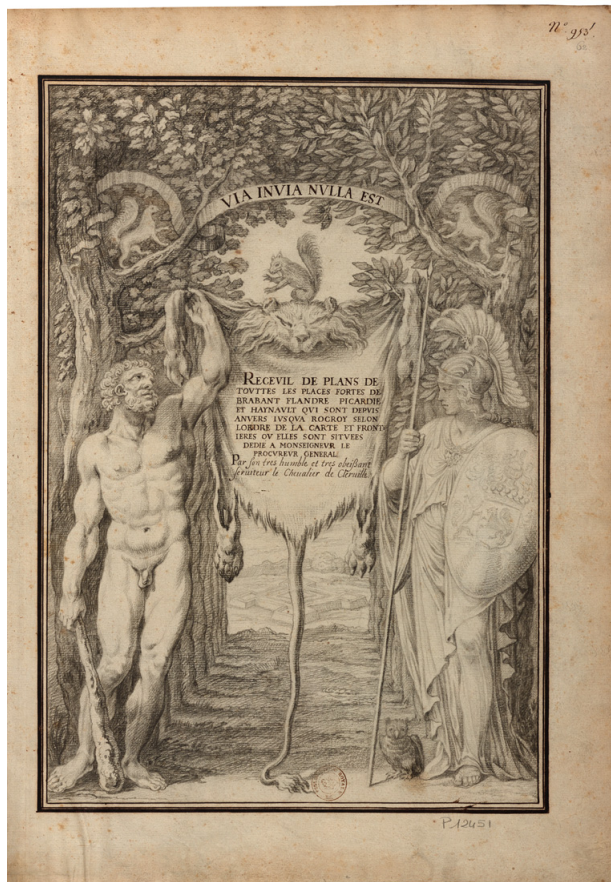


FIG. 5 LOUIS NICOLAS DE CLERVILLE, *Receuil [sic] de plans de toutes les places fortes de Brabant, Flandres, Picardie et Haynault, qui sont depuis Anvers jusqu'à Rocroy selon l'ordre de la carte et frontiers ou elles sont situées* (frontispiece), v. 1650-1661. Paris, Bibliothèque nationale de France, Département des Estampes et de la photographie, ID-20-FOL.

Reformation and equally protected by Mazarin since 1642. Fouquet was, at that point, one of the most prominent figures in the kingdom. Chief public prosecutor at the Paris parliament since 1650, he was appointed super-intendant of finances in 1653, and pursued an economic and financial policy which earned him the support of the most important financiers of the kingdom. Although they were from the same generation, Clerville was at that time in a very much lower social position than Fouquet, the richest man in the kingdom on the death of Mazarin and son of a consellor to the Paris parliament, master of requests and then state counsellor. To win the favour of a man who had a large part of the kingdom's finances in his hands must certainly have appeared to him to be eminently advantageous. Clerville thus used his «talents» to attract the favour of Fouquet by making for him a luxurious atlas dedicated to him, bound in red morocco leather, and dealing with the fortified cities of

Brabant, Flanders, Picardy and Hainaut²⁶ [FIG. 5]. Introduced by a magnificent allegorical frontispiece en grisaille with the arms of Fouquet, it was composed of a series of 61 finely washed urban maps with some accompanied by city views [FIG. 6]. Although little is known about the relationship between Clerville and Fouquet, his dealings with one of the richest men in the kingdom certainly allowed him to build up a personal fortune. The fall of Fouquet, arrested for embezzlement on the orders of Louis XIV in 1661, clearly reveals the «dangerous liaisons» that Clerville maintained with him. In a public trial, documented in the national archives, one learns in particular that the marshall had received during several years the lucrative income from the grants of the generalité of Châlons, an administrative area placed under the authority of Fouquet. The document thus mentions that «Monsieur de Clerville has received for four years up to 30,000 pounds, and that to the detriment of the king and his creditors [...] in complicity with the tax-farmer-general»²⁷. It was a serious matter. Clerville, worried about the scandal which could ruin his reputation, wrote from Marseilles to Colbert, who was at that time sorting out the maritime affairs of Fouquet, to give his version of this dubious transaction. In a letter full of circumlocutions, he confided to him that after having done his «little devotions» at the sanctuary of Sainte-Baume, he needed «to confess a sort of sin» which he could

FIG. 6 LOUIS NICOLAS DE CLERVILLE, detail of «profil de Comines», in *Recueil [sic] de plans de toutes les places fortes de Brabant, Flandres, Picardie et Hainault, qui sont depuis Amers jusqu'à Rocroy selon l'ordre de la carte et frontières ou elles sont situées*, v. 1650-1661. Paris, Bibliothèque nationale de France, Département des Estampes et de la photographie, ID-20-FOL, pl. 29.

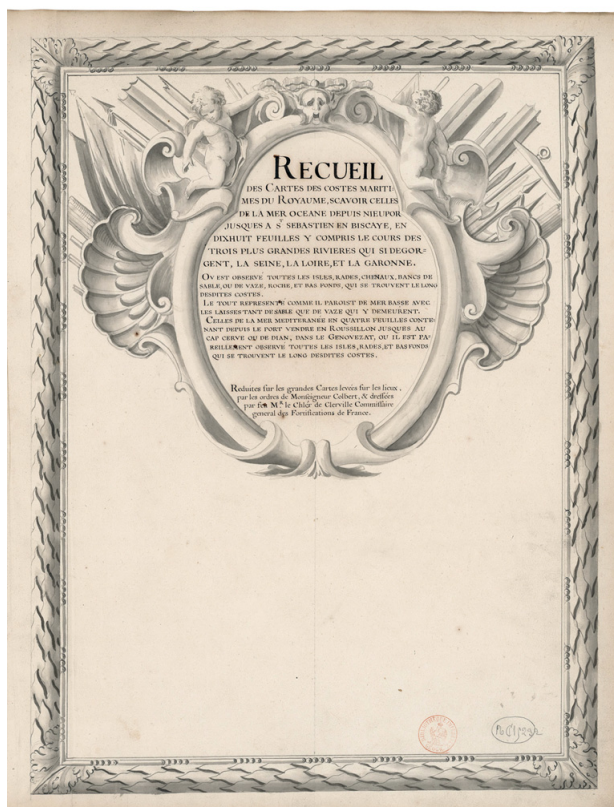


be accused of²⁸. As for other «creatures» of Fouquet that Colbert could not dispense with, such as François de Nuchèze (v. 1600-1667) and Jacob Duquesne (v. 1615-1660), the «Châlons affair» was rapidly snuffed out by the timely dispatch of Clerville along the Barbary coast. This story further emphasises both Clerville's enormous financial appetite and the relationship of subjugation that was established with Colbert afterwards at the beginning of the 1660s.

From then on Clerville actually intensified his relations with Colbert which became even closer from November 1667, after the «Lille episode». In the management of the fortifications of the royal estates, Colbert had responsibility for a certain number of interior provinces, as well as, under the navy, the fortifications on the coast of the North Sea, the Atlantic shoreline and the Mediterranean. Although, in fact, Clerville still continued to deal with many fortified cities, he would nonetheless, by keeping close to his «most honourable patron»²⁹, respond more specifically to the orders of a minister primarily concerned with river and maritime matters. Thus, he mainly worked on numerous constructions and repairs to ports both in the west and in the east and to the project of the Two Seas canal. There remains a great deal of correspondence from their fifteen years of collaboration in the man-



FIG. 7 LOUIS NICOLAS DE CLERVILLE, *Recueil des plans de places frontières de Picardie, Flandre, Artois et Hainaut, selon l'ordre géographique dans lequel elles sont situées à l'égard les unes des autres...* (frontispiece). Vincennes, SHD, Bibliothèque du Génie, Atlas 102.



uscript department of the national library of France as well as more than 500 letters conserved in the archives of the Canal du Midi³⁰. Clerville also used the same *modus operandi* with Colbert that he had used with Fouquet presenting him in the 1660s with another luxurious atlas, this time devoted to the fortified cities of Picardy, Flanders, Artois and Hainaut [FIG. 7]³¹. This work, mentioned in 1683 in the inventory of Colbert's li-

brary, «la Colbertine», was handed down to his eldest son, Jean-Baptiste Colbert (1651-1690), Marquis of Seignelay. The relationship with Colbert, tarnished by a faint mistrust on the part of the minister at the beginning of their collaboration, became more balanced over the years, thanks especially to their shared passion for territories and ports. Colbert had of course perfectly grasped the exceptional cartographic talent of Clerville. He thus gradually directed him towards ambitious cartographic endeavours of waterways and coasts engaging him to make a great maritime atlas which unfortunately had not been finished at the time of Clerville's death [FIG. 8]³². Maps and plans became increasingly



more important in his career as witnessed by the exceptional preliminary sketches and presentation drawings that have been conserved [FIG. 9]. Colbert even ended up, in the 1670s, conceiving the project of adorning the walls of his library with Clerville's maps as evidenced by a letter dated from the end of the month of November 1671:

«I have had the maps of the French maritime coasts that you sent me hung on the walls of my library, and as they have appeared to me to be very beautiful, I will show them to the king. You should not doubt that at the same time I will let his majesty know the considerable expense that this work has represented for you in order to get your recompense. I have ordered the person who delivered these maps to make small copies immediately»³³.

AN ART CONNOISSEUR AND A SEVENTEENTH CENTURY «COLLECTOR»

If Clerville showed a «frenetic» professional activity, to quote Anne Blanchard, incessantly travelling from one end to the other of the kingdom to inspect territories, fortified cities or sailing foreign seas in military campaigns, he was also a courtier who was very visible in Parisian high society. Frequenting ministers and the important personages of the arts and literature in the kingdom, like Mazarin in the first instance, but also Fouquet and Colbert, Clerville adopted their habits, quickly becoming a connoisseur and a compulsive collector. In parallel with his military functions, Clerville was also known as a «curieux», that is to say, «the name given to a person who has brought together the rarest, most beautiful and unusual objects to be found in the realm of both art and nature»³⁴. Such men, according to César de Rochefort (1630-1691), would have given «their whole estate for a quarter of an ell of canvas on which Raphael, Albono [sic], Titian, Domenichino, Carracci or Poussin had put a few brush strokes»³⁵. Thus, one discovers, looking through the archives, a very different facet of Clerville who, far from the field of warfare, appears as a refined and opulent man who possessed one of the most beautiful art collections of his time. His taste for works of art, although almost forgotten nowadays, is mentioned in numerous texts. The abbot Monville (17 ??-1777) thus underlines in his biography of Pierre Mignard, both Clerville's fortune and the quality of his collection: «The knight of Clerville, governor of the Isle of Oléron, whose fortune was considerable, amassed a very beautiful collection of paintings. He had two among them, one by Annibale Carracci, in which there was just one figure, and the other by Vandek [Van Dyck] in which there are two women. This collector was a friend of Mignard». The architect and historiographer André Félibien (1619-1695) also mentions in his *Entretiens sur les vies et les ouvrages des plus excellents peintres*, a «communion of Saint Jerome» by Domenico Zampieri called «Domenichino» which had, according to his expression, «fallen into the hands» of Clerville. «This painting that the secretary [of Mazarin] had brought back to France with several others fell into the hands of the knight of Clerville and according to his inventory had been sold to Monsieur Colbert coadjuteur of Rouen. It is at present in the collection of the Marquis of Seignelay»³⁶. Apart from these works by the most popular and most prized Italian and Nordic painters in the middle of the seventeenth century, such as Annibale Carracci, Guido Reni, Antoine Van Dyck or Domenichino, Clerville also possessed



FIG. 10 GIOVANNI BENEDETTO CASTIGLIONE, *Tobie faisant ensevelir les morts*, v. 1640, etching.

works by French painters, among them Pierre Mignard, from whom he commissioned at the end of the 1650s, a figure of a «horologer» holding a compass as a pendant painting to the one he had by Van Dyck going as far as to provoke envy in Fouquet³⁷. Mignard even deceived Clerville, as is mentioned in *Le Mercure de France*, by selling him for 2,000 pounds a *Madeleine*, a forgery of a painting by Guido Reni, which he had himself painted on «a canvas from Italy»³⁸. If the anecdote does not make the case for the expertise of Clerville, *Le Mercure de France* mentions however that «the most important collectors and connoisseurs and M. Le Brun himself» had been taken in by the deception. Moreover, Clerville decided to invite Charles Le Brun and Pierre Mignard out to a supper in town to clarify the matter thus attesting to his familiarity with the two king's painters, then as famous for their talent as for their rivalry. Several other mentions of paintings that had belonged to Clerville have been made later. Thus, Antoine Schnapper mentions «Music» by Valentin de Boulogne³⁹ another painting by Andrea Sacchi⁴⁰, a «head of Barigel» by Pierre Mignard, an etching entitled «Tobias, burying the dead» by Giovanni Benedetto Castiglione [FIG. 10], a «Saint Peter and Saint Francis» by Annibale Carracci as well as a «portrait of cardinal Pole» by Sebastiano del Piombo then attributed to Raphael⁴¹. Clerville's collection, that was the envy of all, was acquired, after his death, by important collectors like Louis Henri Loménie de Brienne (1635-1698) and the Marquis of Seignelay (1651-1690)⁴².

What conclusions can be drawn from this impressive collection? Certainly, on the one hand, that Clerville's fortune was great for him to be able to rival the most famous collectors of his time and even acquire a drawing attributed to Raphael, then considered

as the greatest Renaissance artist. Yet this personal estate evidently did not come from his salary as a military engineer or even as general commissioner of fortifications. Clerville thus must have grasped any means available to get rich and be able to satisfy the compulsive passion of collectors. Although the matter of Fouquet's grants in 1661 could have cost him a lot, it did not visibly put a stop to his lucrative side activities. As proof, the mention made barely a year later of his trading of slaves in the Mediterranean: «Regarding the knight of Clerville, he did not arrive in Cagliari in January 1662 empty handed. On the way he seized a Turkish boat with its forty-eight men, and then, passing by Stor [Stora] he took twelve moors that he sold here»⁴³. It is easy to imagine that his multiple voyages helped by his status as a knight of the Order of the Hospital of Saint John of Jerusalem gave rise to other activities which were just a lucrative aside from his military career. His wife's fortune no doubt also sustained his lifestyle and his social position. Clerville, in the last ten years of his life, married Paule Poussart de Lignières (1632-1689), a rich heiress whose family possessed the Lignières-Sonneville château in Charente. There is no doubt that the fortune and social rank of his wife favoured Clerville's access to the highest circles in society. Charles Poussard, his wife's grandfather, was a knight of the royal orders and a valet de chambre to the King of Navarre while her mother, Charlotte Marguerite Acarié de Crazannes, was a lady of honour to the queen.

But Clerville's collection also indicated the unique position in the society of the Ancien Régime of a military engineer who had managed to frequent the richest and most cultured elite of his age. None of his peers experienced such a spectacular professional trajectory and social advancement. If «court activities, army voyages, Parisian entertainments and scientific conversations»⁴⁴ were part of engineers' «idle moments» as emphasised by Blaise de Pagan (1604-1665), these learned and wordly activities were rare and intermittent. Clerville thus did much more than just respond to Antoine Deville's injunction which invited military engineers to «haunt the greats»⁴⁵: he even became «one of them» by espousing their tastes, their manners and their courtesies. But even more, Clerville was not solely and simultaneously «one of their creatures» and a «curieux», he even managed the tour de force of becoming one of the artists they most prized. His maritime maps «hung» in the library of Colbert, one of the most fervent promoters of the renewal of the arts and literature retained by Louis XIV, demonstrate his exceptional position in court society. Thus, beyond his actions in the field of warfare, his projects and completed works in the kingdom's fortified cities, the new light that is shed by studying Clerville's courtly career illustrates all the relevance of reconsidering the contribution of military engineers in the broader context of their cultural and social interactions.

NOTES

1. BLANCHARD, 1998, pp. 100-119, BLANCHARD, 2000, pp. 115-142.
2. FURETIÈRE, 1691, *ad vocem*, « créature ». In the original: «*qui est étroitement attaché à un supérieur, à celui qui a fait sa fortune, à qui il doit son élévation*».
3. Clerville's birth date is mentioned in *Le Spectateur Militaire* (2^e série, 32^e année, 20^e volume, 1857, p. 119) but this date is not confirmed by any other source.
4. BLANCHARD, 1981.
5. BUISSET, 2000.
6. BLANCHARD, 1997, pp. 89-93 ; LE BLANC, 2001, pp. 21-34.
7. MUKERJI, 2009.
8. DÉSALBRES, 2005, pp. 591-604.
9. The archives of the department of l'Hérault (AD47) conserve the *Fonds Anne et Marcel Blanchard (1810-1998)*. The notes by Anne Blanchard on Clerville are conserved as document 104 J 93-95.
10. CLERVILLE, *Discurso intorno le fortificat" di Malta*, [s.d], Archives Nationales of Malta in Valetta (AOM), ms 6554.
11. CLERVILLE, *Carte generale des montaignes de la Haute auvergne*, Paris, Jean Boisseau, 1642. In the original: «*enlumineur du roi pour les cartes géographiques*».
12. LE CLERC, 1641; CHASTILLON, 1641.
13. CLERVILLE, 1644.
14. In the original: «*Il ne faut que voir votre bel ouvrage pour connaître que les princes de la terre sont vraiment les rayons de la divine essence, & que la majesté s'attache si puissamment à eux, que non seulement elle s'arrête après leur mort sur leur noms et leurs images, mais qu'elle jette encore des lumières adorables, & des craintes sacrées dans l'âme de ceux qui se hasardent de toucher leurs cendres, & de porter leurs yeux dans leurs tombeaux...*».
15. PINARD, 1793.
16. GAZETTE DE FRANCE (LA), 1765, t. 1, pp. 408.
17. BLANCHARD, 1996, p. 74.
18. CLERVILLE, 1664, *Mémoire sur la possibilité de fortifier Gigery*. Paris. Archives Nationales (AN), Mar/B/4/2, F°394.
19. BLANCHARD, 1998, pp. 125-127.
20. Clerville had been appointed *General Commissioner of Fortifications* by Mazarin in 1659 but his appointment only came into force three years later in 1662, when Colbert officially confirmed it.
21. CLERVILLE, 1677.
22. BLANCHARD, 1998, p. 136.
23. HAMY, 1904, p. 99. In the original: «*Je vous prie d'en dire quelque chose à Clerville lequel certainement prendra tous les avantages imaginables, n'y ayant personne qui s'entende mieux que lui en tout cela*».
24. Bibliothèque nationale de France (BnF), Department of Manuscripts, *Mélanges de Colbert*, t. 52, fol. 39. In the original: «*J'ai choisi le chevalier de Clerville pour aller lui en rendre compte [de la place de Mardick], ne connaissant point de plus capable pour servir le Roi en de semblables matières, soit pour l'étude qu'il en a faites ou pour la pratique qu'il a acquise lors de ses différents emplois... Je m'assure que VAS prendra d'autant plus de plaisir à l'entendre que tout ce qu'il aura l'honneur de lui dire et de lui représenter tend principalement au bien de son service et à la gloire de son nom*».
25. BnF, Département des manuscrits, Français NAF 5765, fol. 80r à 81v. In the original: «*en quel endroit de la bibliothèque étaient gardés les cartes et dessins de son éminence*».
26. CLERVILLE, v. 1650-1661.
27. AN, G/7/223, Généralité de Châlons, province de Champagne, Reims, 27 février 1687. In the original: «*monsieur de Clerville a reçu pendant quatre années jusqu'à 30.000 livres, et ce au préjudice du Roi et des créanciers [...] en complicité avec le fermier*».
28. DEPPING, 1850, pp. 646-648, *Lettre de Louis-Nicolas de Clerville à Jean-Baptiste Colbert datée du 9 octobre 1661 à La Seyne*.
29. *Ibid*.
30. OBLIN-RIBIÈRE, 2013.
31. CLERVILLE, v. 1665-1670.
32. CLERVILLE, v. 1680.
33. Lettre de Colbert à Clerville, novembre 1671. SHD, ms 205, fol. 186. In the original: «*J'ay fait tendre dans ma bibliothèque les cartes des côtes maritimes de France que vous m'avez envoyées et, comme elles m'ont paru très belles, je les ferai voir au Roy. Vous ne devez pas douter qu'en même temps je ne fasse connaître à sa majesté la dépense considérable que ce travail vous a coûté afin de vous en procurer la récompense. J'ay donné ordre à celui qui m'a remis lesdites cartes de les réduire incessamment en petit*».
34. FURETIÈRE, 1691, *ad vocem*, « curieux ». In the original: «*se dit aussi de celui qui a ramassé les choses les plus rares, les plus belles & les plus extraordinaires qu'il a pû trouver, tant dans les arts que dans la nature*».
35. SCHNAPPER, 1994, p. 8. In the original: «*ceux qui donneraient tout leur patrimoine pour un quart d'aune de toile sur laquelle Raphaël d'Urbain, l'Albano [sic], le Titien, le Dominicaïn, le Carrache ou le Poussin auraient donné quelques coups de pinceaux*».
36. FÉLIBIEN, 1689, p. 167. In the original: «*Ce tableau que le secrétaire [de Mazarin] avait rapporté en France avec quelques autres tomba dans les mains du Chevalier de Clerville et à son inventaire il a été vendu à Monsieur Colbert coadjuteur de Rouen. Il est présentement dans la collection de monsieur le marquis de Seignelay*».
37. MONVILLE, 1731, pp. 59-60.
38. MERCURE DE FRANCE (LE), 1730 (juin), pp. 1372-1373. In the original: «*une toile d'Italie*».
39. SCHNAPPER, 1994, p. 74

40. *Ibid.*, p. 165.
41. *Ibid.*, pp. 395-96.
42. *Ibid.*, pp. 372.
43. CÉNIVAL, 1934, t. 1, Lettre de J. Olivier à F. Icard, Gagliari, 9 janvier 1662. In the original: «Quant à Monsieur le Chevallier N. de Clerville, il n'arriva pas à Cagliari en janvier 1662 les mains vides. En route, il s'empara d'un sandale turc avec ses quarante huit hommes, puis, passant à Stor [Stora] il prit douze mores qu'il a vendus ici».
44. PAGAN, 1668, p. 4. In the original: «les occupations de la cour, les voyages des armées, les divertissements de Paris et les entretiens des Sciences».
45. ERRARD DE BAR-LE-DUC, 1600, chap. IX, p. 23.

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The Grunenberghs and their influence on engineering in the Spanish court (1656-1696)

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Around the middle of the seventeenth century, specifically in 1656 during the reign of Philip IV, Carlos de Grunenbergh, senior and junior, left Flanders to join the many other engineers in the employ of the Spanish crown and its armies [FIGS. 1 and 2].

Of German origin, the Grunenberghs were not by birth subjects of the Habsburgs, a circumstance that set them substantially apart from other engineers serving the Spanish crown. That notwithstanding, the many references found in contemporary records attest not only to their significance in technical matters, but also to their proximity to Spanish centres of power.

The Grunenberghs, colonels both, were members of a family of military engineers who, although established in Brussels, hailed from northern Westphalia, a region under the aegis of the Diocese of Köln bounded on the north by the United Provinces. That Catholic enclave was a traditional recruiting grounds for soldiers, officers and engineers serving the Spanish crown. Catholic Germans from the northern states were known as «high Germans», epithet by which the Grunenberghs were known professionally.

The earliest record of their surname, which dates from the fifteenth century, associates the family with engineering. The bearers, Conrad Grunenbergh, senior and junior,



FIG. 1 Grunenbergh family coat of arms





FIG. 2 MATTIA PRETI, *Portrait of Carlos de Grunenbergh*, 1686. Oil on canvas. Malta, private collection.

descended from German-Swiss nobility. Conrad Sr, summoned by the authorities of Constance, engaged in municipal works and urban enhancement in that free imperial city located in the southwestern Holy German Empire (Baden-Württemberg). He was promoted to a number of positions of prestige and awarded high honours, ultimately administering justice as a Burgomaster for the empire.

His eldest son and namesake, both engineer and devout traveller, holds particular interest for

the historian. Conrad Jr owed his relative fame among his contemporaries to his handsome and historic armorial or roll of arms, one of the era's most comprehensive, custodied by the Secret State Archives Prussian Cultural Heritage Foundation at Berlin (Dahlem). The younger Conrad and his brother joined Emperor Frederick III's army in 1465. In 1468 he was knighted by, among others, the Orders of the Holy Sepulchre and the Knights of Famagusta (today's Cyprus). Those knighthoods spurred his pilgrimages to a number of imperial cities, followed by a voyage to Jerusalem in 1486. His travelogue, a manuscript of enormous geographic and historic value containing a wealth of topographic detail, is a precocious example of travel literature.

In his drawings, as in those of Carlos and Fernando Grunenbergh, each element is treated differently, the natural landscape sketched in freehand and blurred behind defensive elements and artefacts, drawn with the aid of geometry. Such pictures aimed to extoll the majesty of cities and their walls and fortresses against a background with obvious political connotations, for they represented power, their authors' scientific knowledge or the discovery of new lands. The practice of establishing a contemplative urban inventory, particularly of maritime cities, was to endure for a very long time.

To return to the seventeenth century, record of that practice constitutes a fundamental tool for an attentive reading of historic sources that confirm the indisputable proximity to power earned by colonels and engineers Carlos and Fernando de Grunenbergh. Their designs and proposals were nonetheless judged by some contemporaries to be overly innovative, straying as they did from consolidated knowledge.

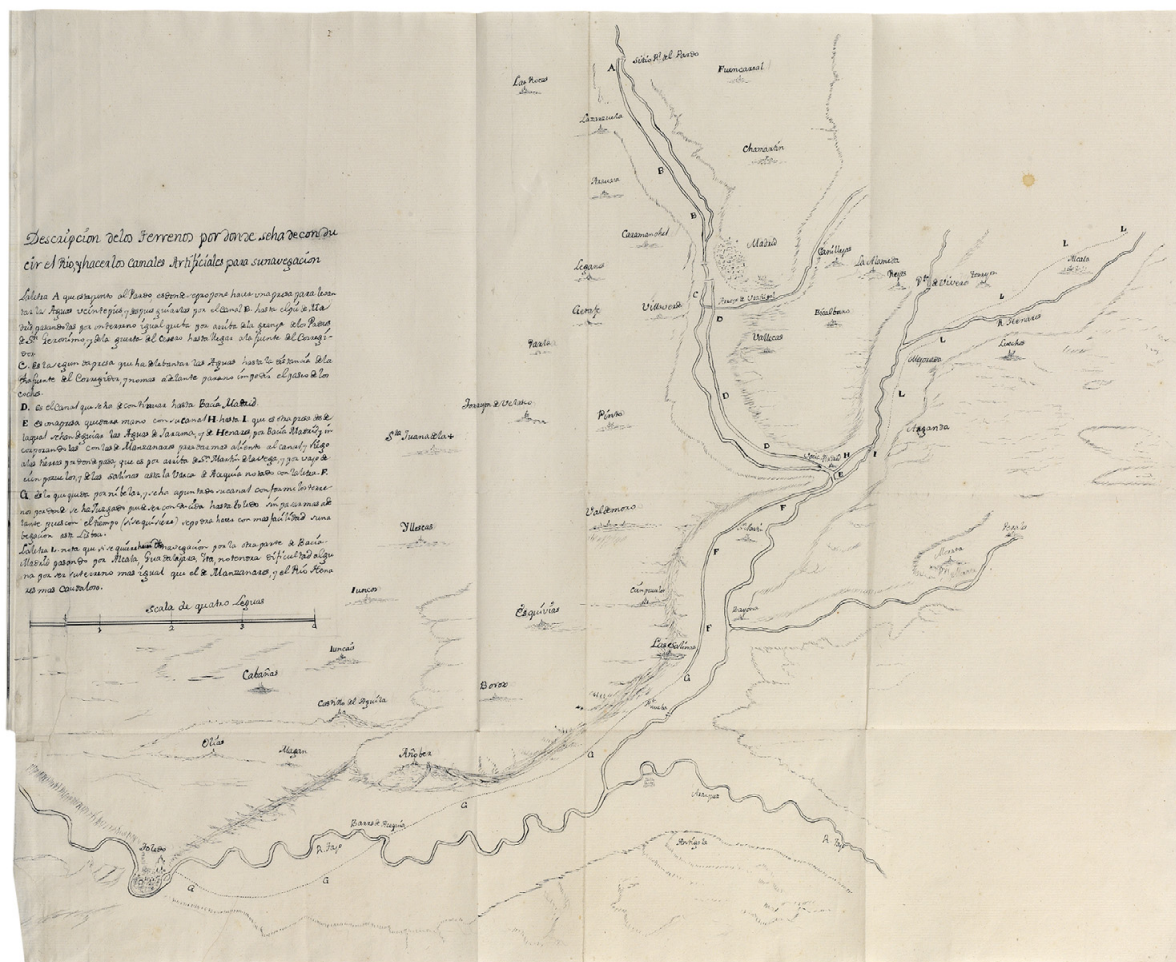


FIG. 3 CARLOS and FERNANDO DE GRUNENBERGH, *Memorial a S.M. sobre rendir navegable el Manzanares*, 1667. Madrid, Biblioteca Nacional de España, Manuscrito VE 25.31. Plan drawing of the Manzanares Canal by Coronels Grunenbergh.

LOBBYING FOR THE MANZANARES CANAL PROPOSAL IN THE HABSBURG COURT

Their idea to build a navigable canal between Madrid and Toledo parallel to the River Manzanares is a case in point [FIG. 3]. As a project designed for economic and commercial purposes, it differed from earlier military works. Spurred on by their idea and an indisputable interest in waterworks, the Grunenberghs sought the support of court dignitaries for what was to be their most personal project.

At a time when the political influence of a powerful mentor ensured the means needed to implement such proposals, in 1660 Carlos, the elder brother, addressed Philip IV in these words «assuring Your Majesty, whom God save, to use them in enterprises that the supplicants, further to Your royal order, have conveyed to Don Luis de Haro», who referred them to the Duke of Medinaceli «for the decree and implementation thereof».

Some months later, however, in 1661, in light of the absence of a royal response, Carlos presented his design to the king's illegitimate son, Don Juan José, on the occasion of his meetings with the prince at Badajoz, where Grunenbergh had been called to help re-

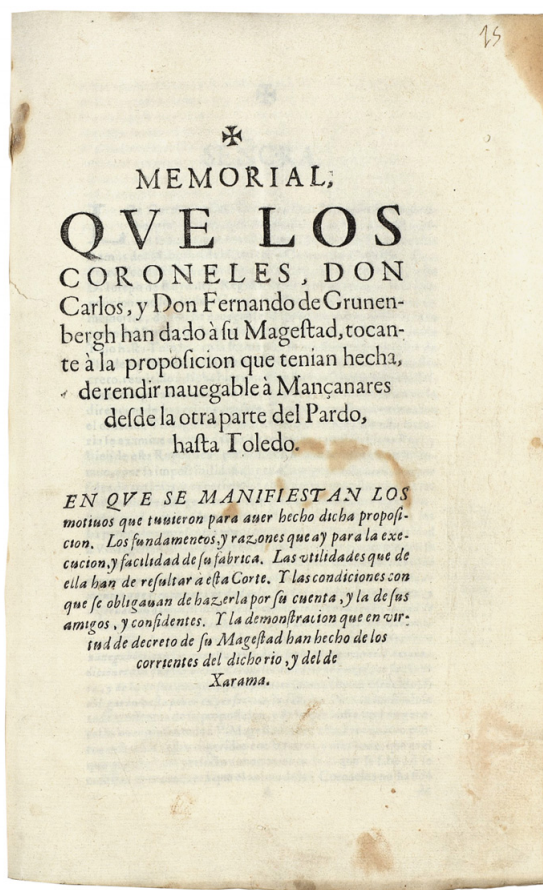


FIG. 4 CARLOS y FERNANDO DE GRUNENBERGH, *Memorial que los coroneles, Don Carlos, y Don Fernando de Grunenbergh han dado a su Magestad, tocante a la proposición que tenían hecha, de render nauegable a Mançanares desde la otra parte del Pardo, hasta Toledo*, 1668, Madrid.

engineers were invited to defend their proposal, the councillors decided not to accept the chapter on funding, a sensitive issue they deemed would be at risk if left to engineers. Rather, they recommended construction for the account of the crown or the city of Madrid, which in essence suspended the project *sine die*, given the paucity of public resources¹. Even so, the Grunenberghs expressed their satisfaction at the earnest good will devoted to their proposal by the council members, deeming them qualified to review a matter calling for good judgement as well as a command of the subject. Years later they wrote: «as ministers with an understanding of things political and military, having lived in countries where such works can be regarded as feasible, they reviewed the said proposal with utmost diligence and deliberated among themselves to determine what would best serve your Royal and the Republic's interests»². They viewed them, then, as men of the world, learned and in some cases even with an interest in and acquaintance with the subject³, as navigation canal construction was highly developed in their countries of origin: France, Milan and Flanders [FIG. 4].

Carlos de Grunenbergh was summoned to the council meetings in a spirit of understanding and Medina de las Torres even allowed the engineer to study a treatise by Cap-

organise the armies participating in the Spanish-Portuguese war. The subject was not new to the Habsburg prince, for during his rule in Flanders he had dealt with issues involving the maintenance and expansion of the vast network of navigable canals built to connect prosperous Flemish and German cities.

For a variety of reasons, Grunenbergh had professed his loyalty to the crown prince's brother, to whom he made explicit and reiterative reference. The Grunenberghs' plan for artificial navigation must have appealed to the *Príncipe de la Mar Océana*, who ordered his secretary, Mateo Patiño, to refer the question to Luis de Oyanguren, Secretary of the *Despacho Universal* [universal office], to determine the feasibility of the German engineers' proposal.

In 1662, at the urging of Philip IV a council was created under the presidency of the Duke of Medina de las Torres. Its members, the Marquis of Mortara and the Barons of Watteville and Auchy, were entrusted with deciding whether to proceed or otherwise with the colonels' request in all its originality. At a meeting in which the

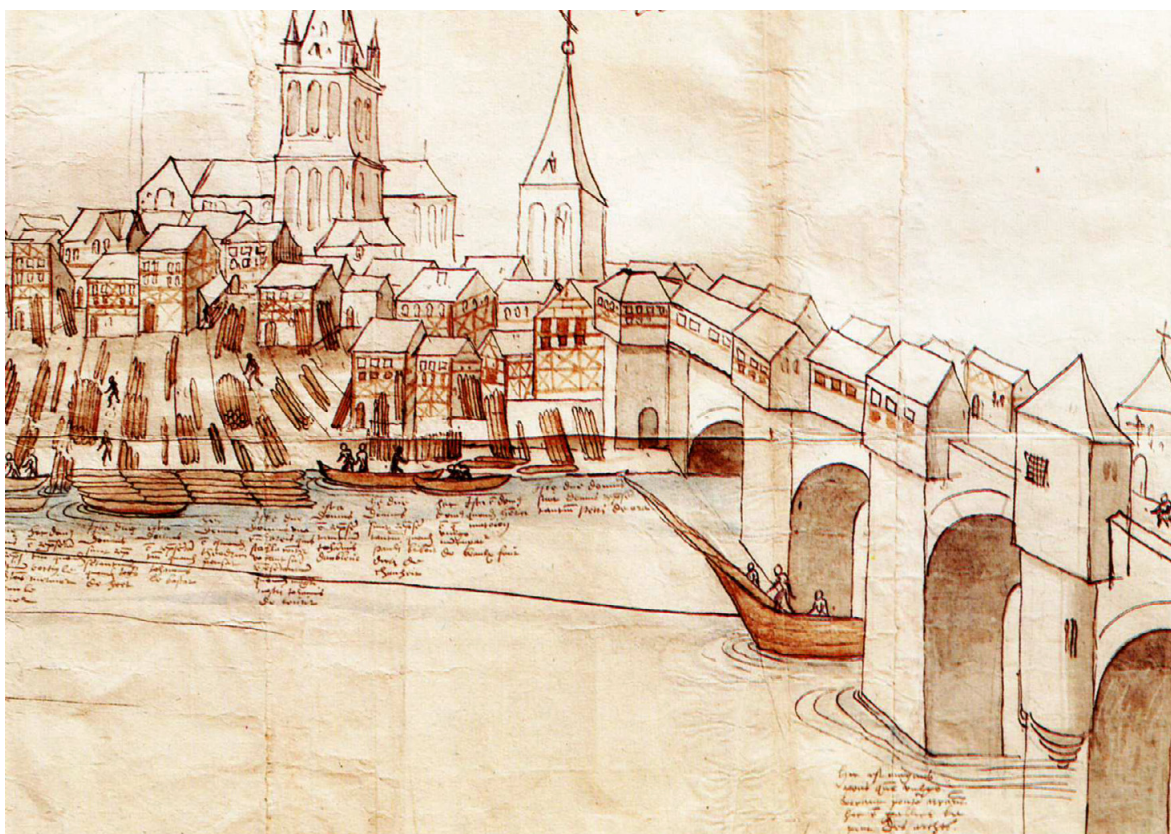


FIG. 5 Overview of Liège showing the navigable canal on its course under the city's bridge, 1553. Archives de l'État, Liège, Cartes et plans, No. 220/bis.

tain Gonzalo Fernández de Oviedo entitled *Quinquagenas de las noblezas de España*, dated in 1555 and custodied in the Duke's library⁴.

Oviedo's document was rooted in the culture underlying the values that shaped contemporary aristocratic mentality: a penchant for invoking the heroic deeds attributed to men of noble birth, knowledge that attested to their status as members of the elites entitled, in their view, by their aristocratic origin to think in terms of glory. Reliving the grandeur of dynastic events was tantamount to mapping an exclusive pathway, to accessing knowledge which, forbidden to the vast majority, drew from that exceptionality to acquire its full significance as a portrayal and reminder of power.

Oviedo's text recounts an idea put forward by John II of Castile in the mid-fifteenth century to build a canal that would carry River Jarama water from Viveros Bridge to Madrid. The flow would end at the base of the tower of San Pedro el Viejo Church, the spot where in Madrid's traditional and famous «water voyages», underground water surfaced in an eponymous spring feeding a tiny stream that emptied into the River Manzanares.

The idea was used by the Grunenberghs as endorsement of their proposal. They differed, however, from the general belief that the water needed to render the Manzanares navigable would have to be drawn from the River Jarama, a stance that ultimately led to disapproval of their project.

It was nonetheless approved by the council, along with the levelling involved, for as its members reported to the king, the project was useful and suitable and the works, ac-

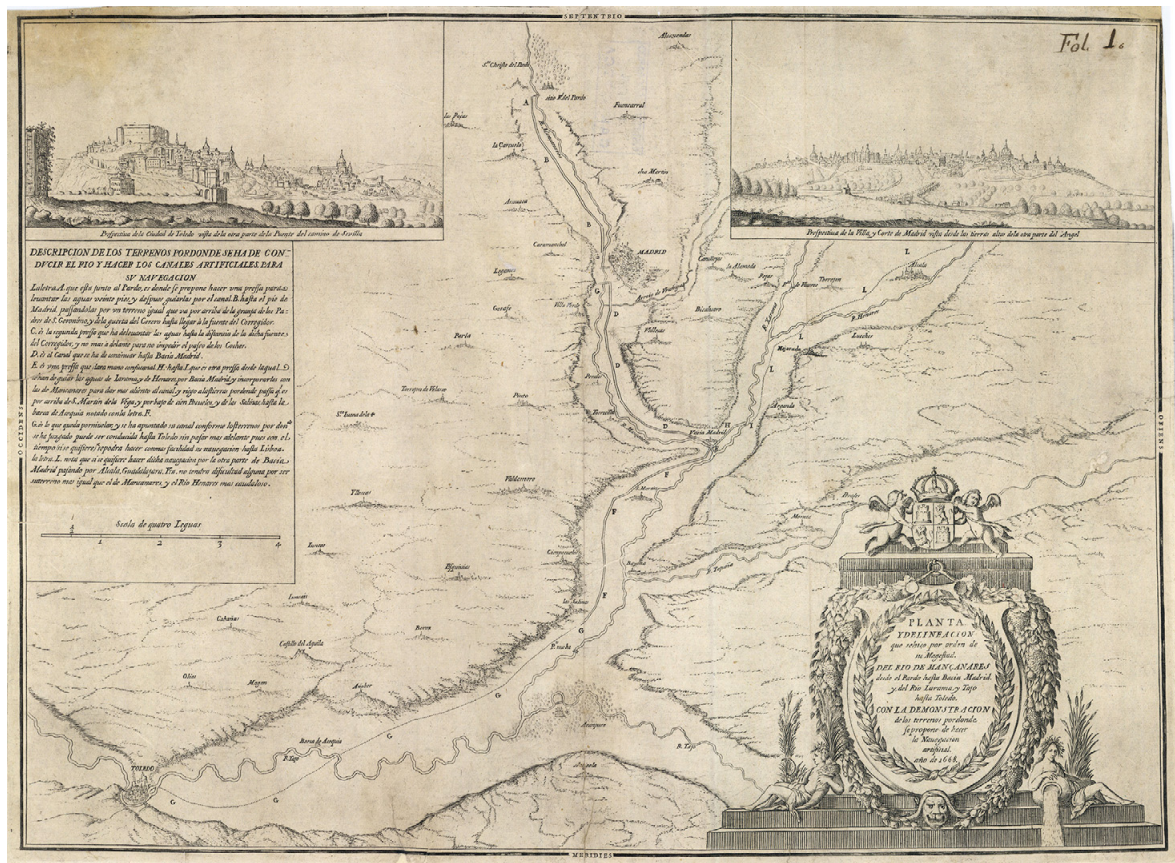


FIG. 6 CARLOS y FERNANDO DE GRUNENBERGH, *Memorial a S.M. sobre rendir navegable el Manzanares*, 1668. Engraving. Madrid, Biblioteca Nacional de España, Manuscrito VE 25.31. Plan drawing of the Manzanares Canal by Coronels Grunenbergh.

According to the authors, involved no particular technical complexity. Political instability determined project suspension, however.

At Philip IV's death in 1665 Carlos de Grunenbergh repaired to Madrid, hub of monarchical decision-making, seeking sponsorship for and furtherance of his navigational proposal. The moment chosen was particularly decisive: the early days of Mariana of Austria's regency were characterised by the logical designation of new advisers and ministers in the web of influence woven in the court by the various opposing factions. One outcome was the loss of favour of up to then prominent *grandees* such as the Duke of Medina de las Torres and Don Juan José of Austria.

Grunenbergh consequently sent the proposal and a hand-drawn sketch to the Regent to re-launch the project. She in turn forwarded it to the Count of Peñaranda, Gaspar de Bracamonte Guzmán y Pacheco de Mendoza, for an assessment of its suitability⁵. The latter, an experienced politician and diplomat, President of the Indies and member of the Government Council, summoned Colonel Carlos de Grunenbergh to obtain first-hand knowledge of the technical conditions and status of the project to render the Manzanares navigable.

In light of his familiarity with such public works thanks to the time spent in Germany and the Netherlands, Peñaranda decided in favour of the Grunenberghs' petition recommending: «in light of the simplicity of the works and their substantial utility, the licence

requested be granted by Y. Majesty and the proposal be undertaken». The innovative solution was applauded at the time and subsequently by such dignitaries as the Count of Peñaranda, to whom the Grunenberghs dedicated an acknowledgement «in all righteousness (for) his understanding and experience of the simplicity of implementing the said proposal and its utility in this court and in the kingdom of Castile»⁶.

A second council created in the municipality of Madrid on 9 January 1666 was presided by Francisco Ramos del Manzano, member of the Government Council by virtue of his presidency of the Council of Castile and of the queen's inner circle as young Carlos II's tutor. When summoned, Carlos de Grunenbergh described the difficulties involved in the former approach to River Manzanares navigability, i.e., in carrying water from the River Jarama.

The councillors engaged in long debates, arguing against the innovations proposed by foreigners, here the Grunenberghs, whom they mistrusted in the belief that aliens were largely responsible for the republic's ills⁷. Their opinion was intensified by the Grunenbergh proposal to refrain from using the Jarama water and from beginning the waterway from there, contrary to the premise of the «ancients». Such ideas were deemed by the councillors to be outlandish, hazardous and overly «innovative», for they were not backed by tradition.

The Grunenberghs responded by publishing the proposal and replying to Mariana de Austria in the following terms: «(for) their general originality and unfamiliarity they are deemed suspect (as in this case) by the uninitiated and their construction impossible by commoners (who attribute to miracles that which is no more than ignorant amazement) and regarded from the superficiality of their knowledge as chimerical and laughable»⁸.

CARLOS DE GRUNENBERGH DURING THE COUNT OF SANTISTEBAN'S VICEROYALTY. FORTIFICATION AND NEW CONSTRUCTION AT MESSINA. DEBATE AROUND THE CONSTRUCTION OF A CITADEL

A similar situation arose some time later when Carlos de Grunenbergh, stationed at Sicily, undertook to build a citadel in Messina harbour [FIG. 7]. After the city's anti-Spanish uprising, court hawks favourable to inflicting severe punishment on the rebels predominated in government decision-making. Francisco de Benavides, Count of Santiesteban, was appointed viceroy to represent that political faction and impose the harsh measures adopted by the government presided by Juan José de Austria, including the construction of a citadel against foreign and domestic enemies⁹.

Benavides's rule was characterised by measures intended by the Spanish crown as a show of strength, which included a firm stand against the Messinian rebels and, capitalising on events there, by extension against other cities in eastern Sicily with similar privileges. Giuseppe Vicenza Auria described the scenario in his *Historia cronologica delli signore vicere di Sicilia* (1697), in which he highlighted the beneficial effects of viceroy government, attributable in his account to Viceroy Santiesteban.

Santiesteban, refined, cosmopolitan, influential in the court's decisions on Italy and imbued in the Baroque mentality characteristic of his convulsive times, was fascinated

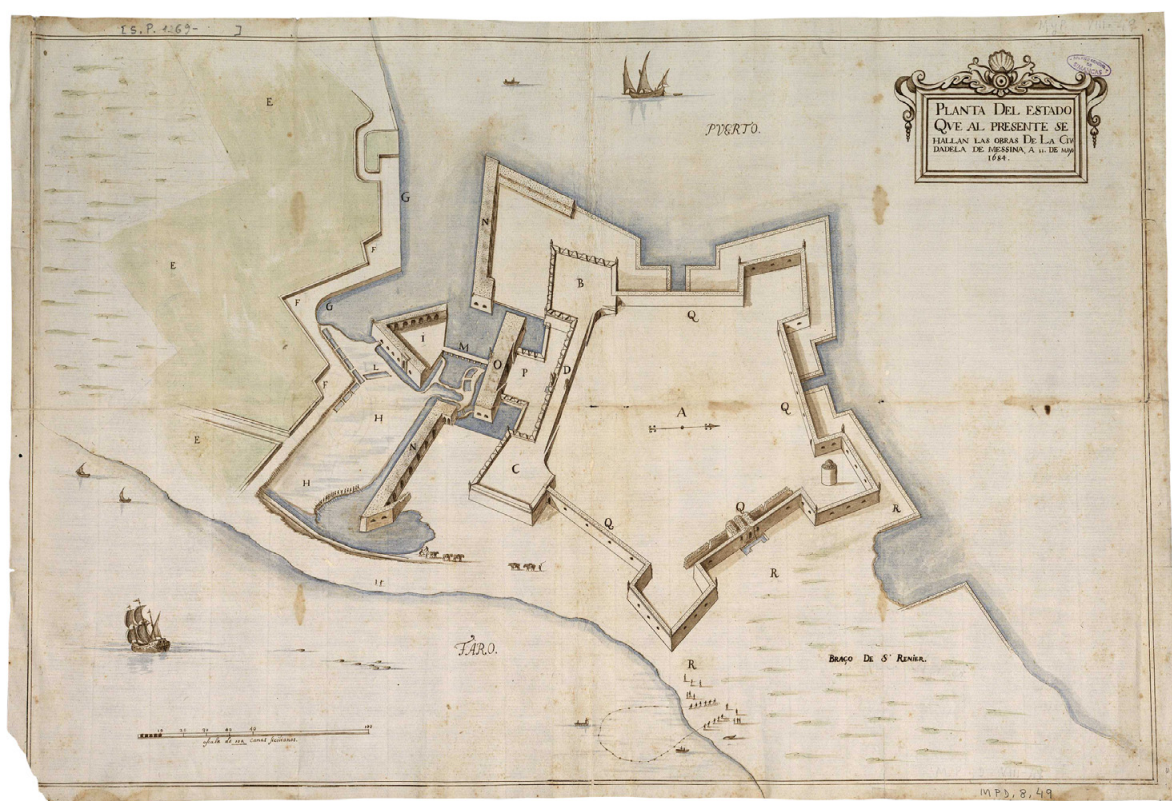


FIG. 7 CARLOS DE GRUNENBERGH, *Plan view of the present state of the works on Messina Citadel*, 11 May 1684. España Ministerio de Cultura y Deporte, Archivo General de Simancas, MPD, 08, 049.

by a singular engineer, Carlos de Grunenbergh, a portrait of whom he kept in his private collection entitled, in the inventory of his assets, as *El general y su ingeniero*¹⁰. Contemporary records of his rule spare no praise of the engineer, using terms such as «famous» or «universal in his profession». Regarded by Santiesteban as one of the most accomplished representatives of what might today be called «international» technical culture¹¹, Grunenbergh was entrusted by the viceroy with the design of new fortifications in the eastern coastal cities and in particular the new citadel that was to become a symbol of Spanish power in Italy.

At Messina, after arduous debates on the model to be built and in particular on where to build it, Carlos de Grunenbergh's riskier and more technically complex proposal was ultimately chosen. The works would be erected in the harbour on Cape San Ranieri, despite the technical difficulties involved in building foundations on a narrow and unstable stretch of flooded terrain, much of which surrounded by the sea. With a non-fortuitous pentagonal ground plan that attested to the greater maturity and modernity of his design compared to other sketches produced until then in Sicily, Grunenbergh proved himself to be one of Europe's foremost geometers. In his drawings, the clear outlines of fortresses, separated from cities and with scant heed to urban or natural surrounds, prevail over the landscape. In Count Santiesteban's opinion, the complex design and construction of the new structure, to be built on sandy, unstable sea-soaked land, could only be successfully addressed by an engineer of the professional stature of Grunenbergh, who had trained in the Spanish Low Countries where such technical endeavours were common.



FIG. 8 CARLOS DE GRUNENBERGH, *Plan view of the Messina citadel, city and harbour* by Carlos de Grunenbergh, 1686. España, Ministerio de Cultura y Deporte, Archivo General de Simancas, MPD, 11, 30.

The viceroy's arguments convinced the royal advisers and the prime minister (Juan José of Austria until 1679 and the Duke of Medinaceli from then on) of the advantages of Grunenbergh's more radical, ground-breaking and modern idea, consisting in siting the citadel on Cape San Ranieri. The Government Council decreed that «the citadel be built to the comprehensive plan drawing authored by Gronemberg (sic!), which is deemed to be useful in many ways and to afford greater security for Terranova Barracks and consequently for the entire city and its harbour, Salvador Castle and Cape San Rainieri»¹². Even so, Grunenbergh's design was not lacking in rancorous attacks that kindled the ever present debate between tradition and modernity in the art of military architecture.

Unsurprisingly, in his progress reports on the works and in response to such critics, Grunenbergh highlighted the modernity and singularity of the external elements attached to the bastions, including the pioneering outward-jutting polygonal casemates that rendered the fortress impregnable for, arranged as they were in the middle of the peninsula, they would prevent the enemy from seeing or attacking its interior. The engineer reasoned: «that site may be said not only to be very well positioned for defence and beyond the reach of violent or unexpected attack, but nearly impenetrable, for those external elements, erected here for the first time (...) constitute defences that the enemy will never see or be able to penetrate (...) and it therefore [will be] one of the strongest fortresses ever built»¹³.

The aforementioned debate around fortification attested to the endless dialectics between «modernity» and «tradition» initiated in the Renaissance and ongoing until the turn of the seventeenth to the eighteenth century. In that vein Grunenbergh emphasised the originality of his modern unprecedented approach that in his words prompted confusion among those whose lack of knowledge prevented them from understanding the grandeur of his works, displaying with that attitude an awareness of the modernity, renovation and innovation inherent in his ideas. As he explained, the feats of the ancients stood as proof that grand exploits were undertaken by men of letters able to assume risk in their endeavours, in a fervent defence of engineers and inventors, viewed as the veritable drivers of progress and innovation to whose ingenuity and inventiveness nations owed their scientific advancement.

Carlos de Grunenbergh defended his proposal for the citadel from the criticism levelled against it in words in line with contemporary poliorcetics, incomprehensible for those uninitiated in the subject and reminiscent of his reasoning about the Manzanares canal:

«for good reason, given the new structure of fortresses never before seen or discussed, this new stronghold can be deemed to be the most powerful ever built, as attested to by all those conversant with this art who have seen and examined it, including the military corporals manning his Holiness's galleys and those of the Grand Duke [of Tuscany], and all the Knights of Malta who for different reasons have observed it; whereby I can feel most gratified for having had the fortune, under Y.E.'s protection, to have successfully built a work of this importance which from the outset was held in such contempt by those unable to understand this new method of fortification»¹⁴.

Count Santiesteban, his main support and champion during the count's viceroyalty in Sicily, contributed further to those ideas. Santiesteban, wielding the following arguments, even asked the king to entrust the engineer, rather than the governor of Messina, with decisions relative to the city's defence, contrary to the general rule whereby any disputes arising in the Spanish monarchy's fortresses were to be settled by the military command:

«(...) Don Carlos de Grunenbergh, being of such eminence in his skill and the Royal Treasury finding it to be so suitable, and for the ardently pursued perfection of the citadel, the Messina fortification be deferred absolutely to his judgement, as was done with the one at Zaragoza and the one today underway at Augusta and nearly completed, and both, I can assure Your Majesty, have merited the praise of all those who have seen them, and this, as Grunenbergh says, will be the largest and strongest citadel ever to be built In Europe (...) I deem, in the most loyal of service, that Your Majesty might do well to order that the money allocated not be diverted to any other matter and that the works not be undertaken except as Don Carlos bids, for the new governor of Messina appears to wish to follow in the footsteps of his predecessors who, as they played no part in the decisions around the citadel or anything concerning its construction, detracted from it and retarded it as far as possible in favour of others at their whim»¹⁵.

In that regard, Professor Alicia Cámara explained that from the sixteenth century onward «Fortification engineers and the men of arms in charge of the fortresses often differed, although collaboration between them was viewed as a necessity. Enlightened officers such as Bernardino de Mendoza unreservedly acknowledged that war engineers' expertise was absolutely necessary, not only in fortification but also in reconnaissance for war or moving troops across a country (...)»¹⁶.

And whilst military opinion was needed in the art of fortification, that was not so in territorial outlines and maps, for officers' training did not include drawing tools or geometry. Professor Cámara further noted that: «Engineers were the king's eyes in war. The task of reporting on the lay of the land was always incumbent upon engineers. Collecting that information called for words and pictures. Military officers often intervened in such reports, although their drawings, when they made them, were never as powerful as engineers', whose training included a command of draughting techniques (...). On the whole, we owe the information on the monarchy's outlying lands to engineers (...), in connection not with designs for works but as descriptions per se. The references to territorial descriptions, not all of which have been conserved, are consistent»¹⁷. Engineers, then, drew up territorial reports not only to defend, but to organise, build and design the crown's possessions by, for instance, choosing the sites for roads, bridges or harbours, essential components for both defence and spatial organisation.

In conclusion, architect Fernando Cobos explained that in «the late fifteenth and early sixteenth centuries in Spain fortification was in the hands of the artillery and in other countries, of painters (Leonardo, Holanda, Dürer), to whom the classical model of regular, ideal works can be attributed. In the mid-sixteenth century geometry and what today is known as line drawing were determinants in fortification design. The complex calculations and trigonometry involved in fortification beginning in the seventeenth century called for mathematical expertise, often provided by members of the religious orders associated with academia, the Jesuits in particular. From then on and through the early eighteenth century, with all these disciplines in tow, a divide began to appear between the professional activities of the military and engineering professions. Fortification design and construction constituted an increasingly complex endeavour, in which a command of key techniques was imperative. The technical approach to some of the fundamental particulars of poliorcetics began to change radically, with a concomitant proliferation of fortification treatises»¹⁸.

NOTES

1. GRUNENBERGH, 1668, 10v.
2. The original reads: «*por ser Ministros en quien concurren las noticias de lo Político, y Militar, con las experiencias de Aquellos Países, donde este genero de fabricas son tan tratables, como posibles, examinasen con todo cuidado dicha proposición, y consultasen su parecer, para determinar lo que fuesse de mas conveniencia a su Real servicio, y bien de esta Republica*». GRUNENBERGH, 1668, p. 3r.
3. Such as the Baron of Auch, Carlos Boniers, of Flemish origin, see Barrio, 1994. The Baron of Watteville, who was French, was likewise acquainted with the canals built in his country, in WULLMS, 2012. Francisco de Orozco y Ribera, in turn, Second Marquis of Mortara, held a peerage awarded to his father by Philip III for his services in Italy. The marquise adopted the name of the Lombardian town of Mortara, in Pavia: see SALAZAR, 1697.
4. Fernández de Oviedo, 1555. A facsimile of the first volume of Oviedo's manuscript was published in 1555. See FERNÁNDEZ DE OVIEDO, 1880.
5. The Spanish National Library custodies the copy dedicated to the queen, bound in red leather with iron fasteners; a manuscript version entitled *Descripción de los terrenos por donde se a conducir el río y hacer los canales artificiales para su navegación*, and a third with the final engraving of the «Planta y delineacion que se hizo... del Rio Manzanares... Año 1668» [ground layout and line drawing made of (...) the River Manzanares... year 1668].
6. The original reads: «*de toda consecuencia, con conocimiento, y experiencia de la facilidad en la execución de dicha proposición, y de las utilidades que de ella han de resultar en esta Corte, y Reino de Castilla*», GRUNENBERGH, 1668, p. 3v; AVM, Legajo 3-36-24, f. 3r.
7. AVM, Legajo 3-36-24, f. 6r.
8. The original reads: «*la novedad que causan en lo común, se acreditan de sospechosas, por no conocidas (como lo padece esta) ymposibilitando la execucion de ellas para con el vurgo (que atribuye al milagro lo que no passa de espanta ignorantes) lo que discurren con el corriente de su platico saber, dándolas por quiméricas, y risibles*». GRUNENBERGH, 1668, p. 2 v.
9. Auria noted that Benavides commissioned him to write a history of the Spanish viceroyalty in such a prized possession: «Con quest occasione la decoración de la Galería del Palacio Real de Palermo diede à mè ordine di comporre questa presente *Historia Cronologica de Vicerè di Sicilia*, cosi propietari como luogotenenti dell'anno 1409 fino all'anno presente; e diedi io principio a questa mia fatica nel anno 1687... e dandole il suo complimento quasi nel fine del suo governo, essendo servito di vederla, e passarla alla censura della sua prudenza e diretino» [On that occasion (the decoration of the Gallery in the Royal Palace at Palermo) he ordered me to compose this *Historia Cronologica de Vicerè di Sicilia*, so appropriate in him as viceroy, from 1409 to the end of this year; and having begun my task in 1687 (...) and completed it nearly at the end of his rule, he was satisfied to see it and submit it to the supervision of his prudence and judgement] (AURIA 1697, p. 176).
10. CEREZO SAN GIL, 2006, p. 349.
11. Given his training and knowledge of poliorcetics that transcended national boundaries, for with his German birth and career he was acquainted with the Flemish, Italian, Spanish and, indirectly, French schools of fortification.
12. The original reads: «*formar la Ciudadela según la Planta inclusa que hizo Gronemberg (sic) en que se reconocen muchas utilidades assi para la maior seguridad del mismo cuartel de Terranova, y consiguientemente de toda la ciudad, como para la del Puerto y del Castillo del Salvador y del Brazo de San Raineri*», AGS, E, Legajo 3.530, doc. 10, fol. 50.
13. The original reads: «*se puede decir que dicha plaza no será tan solamente puesta en muy buena defensa y fuera de insulto, sino casi impenetrable pues con aquellos cuerpos externos, nunca practicados (...) cubren todas las defensas que el enemigo nunca puede ver ni batir (...) y por lo conseqüente [será] una de las más fuertes plazas que nunca se ha fabricado*», AGS, E, Legajo 3.503, doc. 17, fol. 37.
14. The original reads: «*por buena razón conforme la nueva estructura de estas fortificaciones jamás vistas ni platicadas, se puede estimar ser esta Plaza la más fuerte de cuantas ay; como hoy en día todos los que son peritos en este Arte que lo han visto y examinado lo confiesan, así los cavos militares que se han hallado embarcados en las galeras de su Santidad, y en las del gran Duque [de la Toscana], como todo los Caballeros de Malta, que por diferentes razones lo han observado, de lo cual puedo hallarme muy dichoso que debajo el amparo de V.E. he sido tan afortunado de haber acertado en una obra de tanta importancia, la cual desde su principio ha sido tan contrariada de los que no podían comprender este método de nueva fortificación [...] considero por mui del servicio de Vuestra Majestad tenga por bien mandar no se divierta el dinero aplicado a otra cosa alguna y que no se emprenda fabrica sin el parecer de Don Carlos pues se cree que el nuevo gobernador de Mesina hacía de querer seguir a sus antecesores como no han temido parte en la resolución de la ciudadela ni en nada que mire a su fábrica la deslucen y atrasan cuanto pueden emprender otras a su capricho*». AGS, E, Legajo 3.503, doc. 36, fol. 81.
15. AGS, E, Legajo 3.502, doc. 11, fol. 31.
16. CÁMARA MUÑOZ, 1998, pp. 11 y 129.
17. CÁMARA MUÑOZ, 1998; ESTEBAN PIÑEIRO, 2017.
18. COBOS GUERRA, 2012.

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A life in service on the royal construction sites. A portrait of Jacques Tarade (1640-1722), architect of the king's buildings who became the director of fortifications of Alsace

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The present article aims to study the career of Jacques Tarade (1640-1722) [FIG. 1]. Recognised as one of the main engineers in the reign of Louis XIV, trained in the context of Parisian constructions and having started out as an architect before becoming a king's engineer, then director of fortifications of Alsace, his career has hardly been studied, with the exception of the research carried out by Anne Blanchard¹.

Throughout his training and in his projects, Tarade worked with the main architects of his time and knew how to gain the trust of Louis XIV's ministers, Colbert and Louvois, and above all of the most important of the engineers, Vauban. Louis XIV ennobled him as a reward for his services and granted him the Orders of Saint Lazarus and Saint Louis. It is this exemplary trajectory and the importance of this network of influence, that made possible the development of Tarade's career as well as his social advancement, which we thought it was important to study here. Beyond this first stage of research, a detailed analysis of Tarade's work has still to be carried out, in order to try to better distinguish the part representing his personal creations and those that were mere executions of projects by Vauban.



FIG. 1 JEAN-ADAM SEUPEL, «Portrait de Jacques Tarade» (frontispiece) in JACQUES TARADE, *Desseins de toutes les parties de l'Eglise de Saint-Pierre de Rome*, 1713.

ORIGINS AND TRAINING OF JACQUES TARADE, IN THE HEART OF THE WORLD OF PARISIAN BUILDING WORKS

Born in 1640 in the hamlet of Clermonteix, in Haute Marche, Jacques Tarade was from a very modest family of master masons from Creuse, but however enjoyed rapid social advancement thanks to his relatives who were among the most famous 17th century Parisian entrepreneurs. His father, Jean Tarade, called Taradon the younger, a master mason, was king's general master of roads and buildings. His mother, Marguerite Villedo – or Villedot – was the sister of Michel Villedo (1598-1667) a famous Parisian entrepreneur who was working with the most important architects of his time, and from 1636 on, was general master of masonry works of the king's buildings and civil engineering in France. Some years after the death of her husband, who died prematurely in 1641, she was married for a second time to Antoine Bergeron (1625 ? – 1681), then a simple mason in Creuse². Probably trained by his brother-in-law, Antoine Bergeron was made a master mason in 1650, then «sworn builder for the king's masonry works»³ before becoming one of the most important Parisian entrepreneurs and advisors to the king, general master of paving works in His Majesty's buildings, and civil engineering works in France, following Michel Villedo. Bergeron took charge of the education of Marguerite Villedo's children and thus that of the young Jacques Tarade «sent to the small schools up to and during three consecutive years»⁴, as stipulated in the marriage contract.

All this seems to indicate that Tarade was naturally trained in the family environment in architecture and the building trades, on the great royal or private construction sites, like Nicolas Fouquet's château de Vaux, the Louvre, Saint-Germain-en-Laye, the Tuileries or the Observatory⁵, before being responsible for the management of works on some of these sites. The letters patent of nobility, established by Louis XIV in January 1683, thus indicate that the architect «had been charged with the development of the architecture of our Royal Houses, of the Louvre in Paris and of Versailles, from 1662 to 1664»⁶. A contract notarised on 23rd May 1721, mentioned in the post mortem inventory of Jacques Tarade⁷, gives further evidence: it is related to the promise of payment by His Majesty «of the rest of the masonry works done both in the Louvre, the Tuileries palace, the Bastille and the Observatory, and the château in Versailles»⁸. Our architect was thus able to train on these prestigious construction sites in the techniques of construction, carpentry⁹, classical French-style architecture and building project management.

Tarade is also one of a limited number of French architects in the reign of Louis XIV – like Michel Noblet, François Le Vau, the brother of Louis Le Vau, or also François d'Orbay for example –, to have completed their practical training with a journey to Italy, especially to Rome, to study and draw the ancient or Renaissance monuments and visit the large architectural sites recently finished or in progress¹⁰. If one is to believe the information given by Tarade, it was during this journey made in 1659 when the young man, then aged 19, made in these same places his *Desseins de toutes les parties de l'Eglise de Saint-Pierre de Rome. La première et la plus grande de toutes les Eglises du monde chrestien*¹¹, which he later had engraved by St. Marot¹² (1619-1676), architect and en-



FIG. 2 JEAN MAROT, «Veue extérieure du long costé de l'Eglise de St Pierre de Rome avec partie de la colonnade de la grande Place qui est devant», in Jacques Tarade, *Desseins de toutes les parties de l'Eglise de Saint-Pierre de Rome*, 1713.

graver, with the intention of publishing them [FIG. 2]. But he had to wait until 1713, once he had retired, for the work to be published¹³, «the important occupations that the said Tarade had in the service of His Majesty did not allow him to bring them to light earlier»¹⁴. On the title page, on opening the publication, Tarade refers to himself as an architect, but also «a regular engineer of the king». He also says that on his return from Italy, he had made a model of Saint Peter's church in Rome from these drawings, which he had presented at Versailles and that Louis XIV had been pleased to see several times.

AN ARCHITECT OF THE KING'S BUILDINGS BECOME MILITARY ENGINEER

On 19th January 1669, Jacques Tarade, now aged 28, married Marie Lavier, daughter of Charles Lavier, carpenter in ordinary to the king's buildings and master carpenter in Paris, and Marie Briart. The marriage contract drawn up on that date again attests to the importance of the family and professional network of Tarade in connection with the ambit of the Parisian architects¹⁵. The essence and functions of the people present at the signing of the contract, however, bear witness to the diversification of this sociability network. Gathered together in the Lavier household, on Tarade's side we find:

M. Le Tellier, knight, marquis of Louvois, advisor to the king in his councils; M. Montal, maréchal des camps of his Majesty's armies, governor of Charleroi; M. de Dreux, count of Nancret, maréchal des camps of the king's armies, governor of Quesnoy; Odile Tarade,

brother of Jacques Tarade, architect of the king's buildings; Jean Hanicle, entrepreneur of the king's buildings, his brother-in-law; Guillaume and François Villedo, sons of Michel Villedo; Libéral Bruant, architect and cousin; Louis le Vau, first architect of the king and a friend; André Jacques Mazières, entrepreneur, associate of Antoine Bergeron; André Mazières, valet de chambre of the king; François d'Orbay, architect, or also Blondel, architect.

Apart from the important architects of the king and Parisian entrepreneurs, one can see in Tarade's entourage the presence of Louvois (1641-1691), who at that moment shared the post of secretary of state for war with his father Michel Le Tellier (1603-1685), but also the governors of Charleroi and Quesnoy, personalities who were directly linked to Tarade's career as a military engineer begun in 1661, even if he only figured in the marriage contract as «architect of the king's buildings», residing in Paris, rue Richelieu, parish of Saint-Roch.

This gallery of famous people surrounding Tarade on his wedding day would be completed by that which figured on the walls of his apartments, in the house on the rue Neuve des Petits-Champs in Paris, parish of Saint-Roch, where he died on 8th January 1722: in the dining room on the first floor, the reception room, pride of place went to a portrait of Vauban. Further away, in a room in the wing, there was a large portrait on canvas of Louis XIV; in the bureau of the antechamber, a portrait of Colbert, and in a second-floor room another portrait of Louis XIV and one of Louvois.

One is tempted to see in these portraits – no doubt of a mediocre technique and little value, to judge by the estimates that were made during the post mortem inventory of the owner of the property¹⁶ –, the gallery of the protectors of Tarade, this time a military engineer, in which Vauban occupied pride of place.

A CAREER AS A MILITARY ENGINEER-BUILDER WHO BECAME THE DIRECTOR OF FORTIFICATIONS OF ALSACE (1661-1712)

The synthesis of the service records of Jacques Tarade figuring in his officer's file¹⁷, completed by the reminder of his career compiled in his letters patent of nobility¹⁸, shed light on the trajectory of Tarade, king's engineer.

It appears that it was in 1661, when he was involved as an architect in the royal construction sites in Paris and Versailles, that he was engaged for the first time as a regular king's engineer for the fortifications of Belle-Île, under the direction of Colbert (1619-1683), both superintendant of buildings and general comptroller of finances and secretary of state for the navy and king's household. He was then sent to Piedmont in 1665, to take care of the management of the fortifications of Pignerol and the La Pérouse fort. From that date on, if one believes his service records, Tarade worked only on the fortification sites in the department of Louvois (1641-1691) leaving the king's civil construction sites. According to the present state of research, there is no information on his having had private commissions in parallel with this work on the royal construction sites.

Engaged to follow the army during the Flanders campaign, he was employed to restore and repair the breaches in the fortifications of Charleroi. Then he managed the fortification works at Ath, Le Quesnoy and Charleroi, from 1668 to 1672. It is possible that it was at Ath that Vauban noticed Tarade and suggested to Louvois to call on him to carry out the works on the fortified city of Nancy¹⁹, having noted his skills for the implementation of masonry works.

In the siege of Charleroi conducted at the end of 1671 by William of Orange, Tarade restored in five days the outsides and counterscarps of the fortified city which were considerably damaged, risking his life in the service of the king and to defend the important fortress, a feat which led Louis XIV to grant the engineer letters patent of nobility in 1683.

Once the work at Charleroi, Ath and Le Quesnoy had finished, Tarade was appointed director of fortifications at Nancy in 1674, then director of fortifications at Birsach, Belfort, Saverne, Haguenau and la Petite Pierre in 1674-1675. From that moment on, Tarade only worked on fortifications in Alsace where he had been called on the recommendation of Jacques de La Grange (1643-1710), war commissioner in Flanders and Hainaut, and future intendant of Alsace²⁰. He corresponded regularly with Louvois for the validation of projects and reported on the progress of the construction sites placed under his direction. The same was true of the work sites in Saverne (1675), Belfort (1675), Landskronn (1675), Huningue (1676-1680) [FIG. 3] or Brisach (1675-1677)²¹.

In 1675 Tarade also received the order of the prince of Conde to work on the fortification project of Sélestat, another fortified city in Alsace, a project which was approved by the king who asked him to execute it.

Appointed infantry captain in the regiment of Piedmont in 1676, the engineer followed the German army commanded by the Duke of Luxembourg and had several entrenchments made to protect the advance of the French troops. In 1678, he followed the army of marshal de Créquy during the siege of Fribourg im Breisgau and directed the reconnaissance that made it possible to carry out the attack on the fortified city. Once the town was taken, Tarade was charged with designing a project for its fortification and its correct implementation. He was also responsible for the conception and realisation of the new fortified city in Huningue.

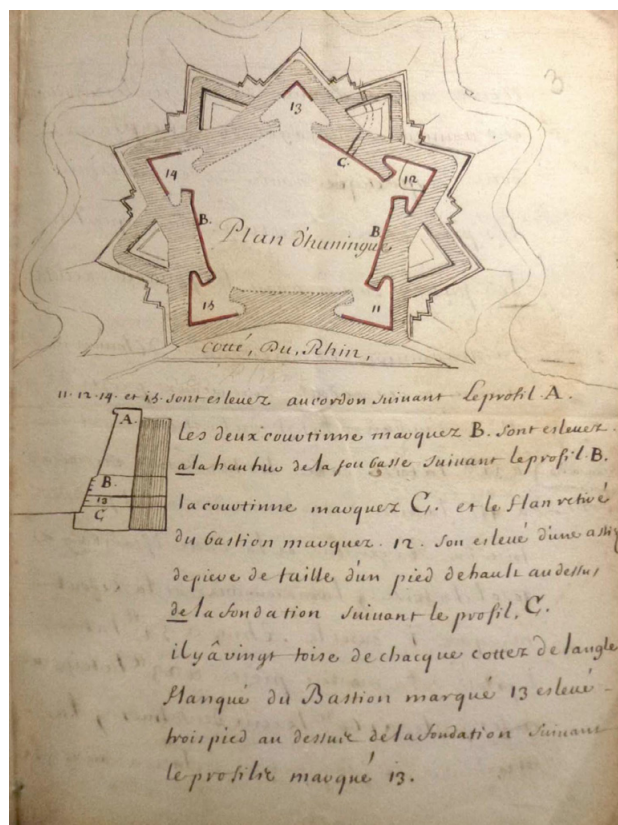


FIG. 3 Letter from Tarade to Louvois on the subject of the progress in the foundation works at Huningue (extract). In Brisack 11th November 1680. Vincennes, SHD, 1 M 1745.

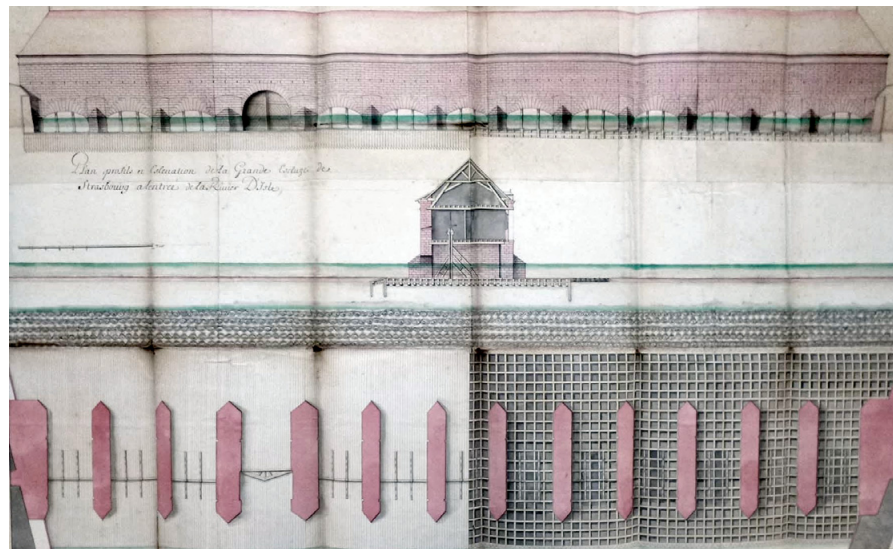


FIG. 4 JACQUES TARADE, *Plan de Strasbourg avec ses environs pour servir au projet de l'année 1698. Le dernier octobre 1698.* Vincennes, SHD, 1 VH 1743, n° 21.

After the annexation of Strasbourg to France in 1681, Jacques Tarade continued his professional advancement by being appointed director of fortifications of Alsace, at the same time as he was appointed commandant of the fortified city of Dole. From then on residing in Strasbourg, he executed in this frontier fortress the extensive projects drawn up by Vauban to modernise the fortifications of the city. He thus directed the construction sites of the citadel and the fortification of the main element of the fortified city [FIG. 4], that of the barrage on the river Ill [FIG. 5] to make it possible to implement defensive floods, or the digging of the canal de la Bruche, destined for the transport of the construction materials necessary for the correct execution of these multiple worksites.

In order to protect the director of fortifications of one of the main strategic regions of the kingdom, Tarade was from then on forbidden to direct the work in town sieges. Thus, during the siege of Philippsburg in Germany, conducted by the French troops, Louvois wrote to Vauban on 10th October 1688, to indicate that «His Majesty is not pleased that you permitted Tarade and Plotot to construct the ditch, as he does not wish you to use engineers that he has not appointed, and even less that you risk maiming a man who directs all the works of a province like Alsace. He thus desires that immediately after receiving this letter, you send them back and do not allow them to again set foot in the camp»²². Nonetheless, he still directed the brigades of engineers during the sieges of Kehl, Vieux-Brisach and Landau during the Rhine campaign in 1703.

FIG. 5 JACQUES TARADE, *Plan, profil et eslevation de la grande escluse Strasbourg a l'entrée de la rivière d'Isle*. 10 juillet 1697. Vincennes, SHD, 1 VH 1743, n° 19.



VAUBAN, HIS MAIN «BOSS»

The correspondence exchanged between Tarade, Vauban and Louvois gives a glimpse of the engineer's personality, described by Vauban as «a man quick to take offence»²³, but also the very strong relationship that existed between Tarade and Louis XIV's general director of fortifications. It also makes it possible to better ascertain the workings of the building of the fortifications in the fortified cities of Alsace. This correspondence in fact illustrates how the conception of fortified cities is the work of several people, making it difficult to attribute this or that construction to one single actor. Thus, Louvois mostly asked Tarade to consult Vauban's opinion, arguing that the engineer should implement without modifications the projects of the general commissioner of fortifications, that had been validated by the king and the minister. At other times in contrast he asked him to stay the execution of a project by Vauban, leaving Tarade the job of choosing between two solutions.

Having been appointed director of fortifications of Alsace, Tarade appears to have had a difficult character, several exchanges mention the conflicts and many disagreements that occurred between him and the engineers of the fortified cities, certain entrepreneurs, and even the Intendant of Alsace, his working methods giving rise to regular complaints. In turn, Tarade seems to have regularly complained of his difficulties and his treatment to Louvois or Vauban, regularly threatening to leave his position. He was thus often called to order by his superiors. In a letter of 7th December 1699, Vauban asked him to change his attitude following the complaints received from Picon d'Andrezel, general subdelegate of the Intendancy of Alsace, and from Fiers, the fortifications engineer, about the management of the Mont-Royal construction site. Tarade appears to have acted like a sort of free agent, modifying the projects without informing the intendant or the engineer. In his severe, but nonetheless friendly call to order – to soften his comments, Vauban wrote explicitly in his letter: «as I am the best of your friends»²⁴ – the general commissioner of fortifications reminded him of the rules of good behaviour for a better management of the fortification construction sites he was in charge of:

«[...] you should behave with your subordinates like the thumb with the four fingers of the hand, that is always in concert with them, the king not having placed you where you are to exercise a despotic authority, but in collaboration with them, especially with the chief engineer without whose participation not one stone must be moved»²⁵.

Historiography has generally presented Tarade as having been, during his whole career, the perfect implementer of Vauban's works, in contrast to other regional directors of fortifications with more assertive personalities, like the engineer Ferry. The correspondence exchanged with Vauban and Louvois however give a glimpse of numerous modifications proposed by Tarade on a large number of projects, often leading to violent disagreements between the engineer and his «boss», attenuated by the profound esteem that existed between the two men. As mentioned before, it appears that Vauban spotted Tarade on the construction site of Ath and proposed his name for managing the fortifications work in Nancy, thus contributing to establishing Tarade's military engineering career for which the latter seemed to always have been grateful.

This respect, this admiration and this submission of Tarade towards Vauban, like the very strong link which joined the two men, are particularly evident in a letter from Tarade to Vauban dated 17th August 1699. This missive is the reply to a critical letter sent by Vauban some time earlier on the subject of the modifications made to the canal in Neuf-Brisach. In it Tarade justifies his choices and his actions, while indicating to Vauban that he could not have written anything more severe to mistreat him and fill him with as much worry as he was then feeling, unable to bear that Vauban was taking the side of Regemorte, the site's entrepreneur,

«[...] For no one from all those who are under your orders have received and executed them with more respect, esteem, veneration and submission than I.

I even think that I had sufficiently shown my devotion for 30 years not only by my submission and respect in executing your orders, but for all that belongs to you and is related to you, as it is by disposition that I honour you to the highest degree, above those who are established around you, I have forgotten nothing of all the conversations in which I have found myself strongly supporting your projects against annoying minds, but I have done what I had to do and nothing more, but at least I have fulfilled therein my duty and I did not think that you had any doubts about that, as this is the first time that you have accused me of lack of respect for you in the long time that I have had the honour to serve you. I would commit a sin against gratitude and I would have fallen into a state of ingratitude which I know is fatal and of which I am incapable.

[...] But as this is the second letter at this time in which you mistreat me on the subject of this new entrepreneur [Regemort] and that you are defending him against me without cause and without my having deserved it, I prefer to abandon everything rather than see myself exposed any more to this. Equally with your cruel reproaches you make it impossible for me to oblige him do his duty for the solidity of the work and to do justice to the workers. As from time to time I will be the victim of his complaints, however unfounded and as all my efforts are to fulfil my duty and to satisfy you, if I cannot succeed in this, it is not fair that the king should make use of such a bad subject like me who causes the delay in his

works. According to what you order me there is nothing left for me, Monsieur, but the displeasure of being destroyed by a man to whom I have given all the delights that I could [...]. This, Monsieur, is all that I have to say to you, asking you, Monsieur, if I have still the honour of serving under your orders, to suspend your judgement against me until you have heard me. This is a mark of fairness that is granted to everyone in all courts and I think that you will not refuse me»²⁶.

SUMMARY OF SOCIAL ADVANCEMENT: ENNOBLEMENT, DECORATIONS AND PORTRAIT

In January 1683, two years after having been appointed director of fortifications of Alsace, Jacques Tarade, was ennobled by Louis XIV and, following him, his legitimate descendants, in recognition of the services rendered throughout his career both as an architect and a military engineer, so that «they can take on the grade of squires and gentlemen, and as such attain all the degrees of chivalry and others, reserved to our nobility, [...]. And [...] we also permit him and his posterity to take and bear up their crowned coats of arms as they are here printed and arranged»²⁷.

The son of a humble mason from La Creuse, become an architect, then a king's engineer and director of the fortifications of Alsace, thus saw the reward for a life devoted for more than twenty years to the main royal civil and military construction sites, and to accompanying armies on the battlefield. The example of the ennoblement of Jacques Tarade corresponds at all points to the thoughts expounded by Vauban in his *mémoire* entitled *Idée d'une excellente noblesse et des moyens de la distinguer par les générations* [Idea of an excellent nobility and the ways to distinguish it through the generations]²⁸ included in volumes two to seven of his writings collected under the title of *Oisivetés* [Idle moments]. In this text, Vauban defends the idea that serving the state, in all its different forms, is a principle of dignity, particularly emphasising the merit of commoners engaged in warfare, so that they can reach all the grades of nobility: «Every military man, living an irreproachable life who has been for 20 years a military engineer, or captain of the infantry, the dragoons or the cavalry, or a commissioner of artillery, all grades which we consider to be equivalent, and who during that time has shown several instances of valour and has committed many well proven good actions, the quality of ennoblement»²⁹.

The king's esteem for Tarade was again manifested when the engineer was appointed as a knight to the order of Saint-Lazarus of Jerusalem, on 15th February 1686, then made a knight of the order of Saint Louis in 1703, a military order created by Louis XIV in 1693. At the height of his career, ennobled, knight of the orders of Saint Lazarus of Jerusalem and Saint Louis, the director of fortifications of Alsace in 1709 ordered Johann Adam Seüpel (1662-1717)³⁰, an engraver working in Strasbourg to make a portrait of him (see Figure 1). This engraved portrait of the engineer reflects all the codes of an architect's portrait³¹. Tarade appears, then aged 69, in a half-length portrait, wearing a long, curled wig with built up sides, dressed in a coat revealing a lace cravat and cuffs. He wears on his left breast the insignia of a knight of the order of Saint Louis. In his

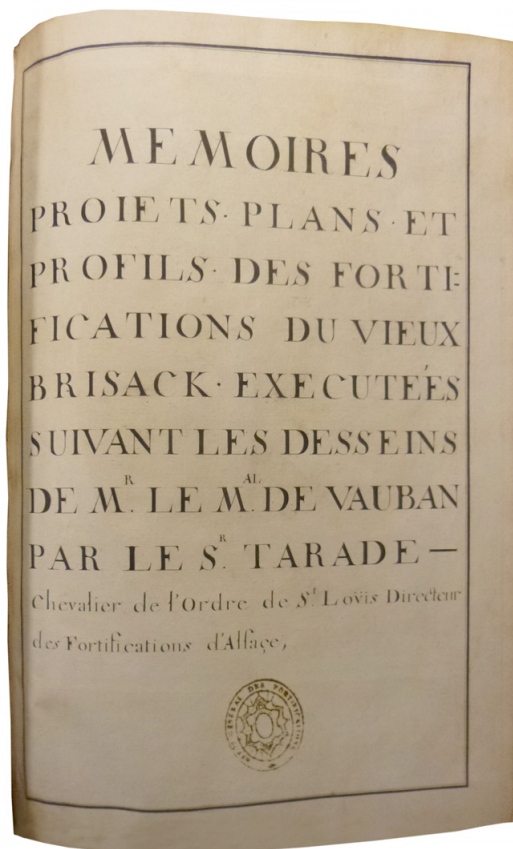


FIG. 6 *Mémoires, projets, plans et profils des fortifications du Vieux Brisack exécutées suivant les desseins de Mr le Mar. de Vauban par le Sr Tarade, Chevalier de l'Ordre de St Louis, Directeur des Fortifications d'Alsace.* Vincennes, SHD, Bibliothèque, Ms F° 13.

left hand he is holding a map of the fortified city of Strasbourg and in his right hand a compass, the tool of the architect or engineer. The portrait is enshrined in a stone oval decorated with a vegetable garland punctuated by eight medallions showing the plans of eight fortified cities, which were among the important achievements of the engineer: Ath; Fort-Louis-du-Rhin; Sélestat; Fribourg-en-Brisgau; Neuf-Brisach; Huningue; Belfort and Charleroi.

The oval rests on a pedestal carrying the inscription: «Iacobus de Tarade Nobilis scutatus Militaris ordinis Sancti Ludovici Eques et Alsatie munimentorum Praefectus», going from one end to the other of the coat of arms chosen by Tarade when he was ennobled: it was azur, with two argent horizontal bands with masonry detailed in sable. This coat of arms, reflection of a career as a builder, architect or engineer is surmounted by a count's crown and supported by two lions.

At the bottom of the engraving is the signature of the artist, the author of the portrait: J. A. Seüpel deliv. Et scult.

With this portrait, a rare example of a portrait of an engineer from Louis XIV's century which has come down to us, Tarade displays with pride the balance sheet of his career as an engineer-architect and his social advancement. The engineer who worked in the shadow of Vauban thus presents a public image, which he puts on the frontispiece of his writings, either manuscript or printed. It is in fact this portrait which figures in the introduction to his work *Desseins de toutes les parties de l'Eglise de Saint Pierre de Rome. La première et la plus grande de toutes les Eglises du monde chrestien*, mentioned above, undoubtedly published in 1713, a year after Tarade retired from his post as director of fortifications of Alsace.

Tarade also edited, probably between 1709 and 1712, while he was still active, three manuscript atlases, each one presenting in a bound volume, concise documentation on a fortified city³²: one is devoted to Landau³³, the second to Fribourg-en-Brisgau³⁴ and the third to Vieux-Brisach [Breisach am Rhein]³⁵ [FIG. 6].

If the engraved portrait of Tarade figures on the frontispiece of each atlas, their titles – *Mémoires, projets, plans et profils des fortifications de [...] exécutées suivant les desseins de Mr le Mar. de Vauban par le Sr Tarade [...]* [Memoranda, projects, maps and profiles of the fortifications of [...]] executed following the designs of the marshal of Vauban by Tarade [...]] – emphasise the work of Vauban, executed on the site by the director of fortifications of Alsace. Each atlas in fact presents copies of different memoranda written

FIG. 7 «Plan de Landau avec ses environs», in the atlas entitled *Mémoires, projets, plans et profils des fortifications de Landau exécutées suivant les desseins de Mr le Mareschal de Vauban par le Sr Tarade, Chevalier de l'ordre de St Louis, directeur des Fortifications d'Alsace*. Vincennes, SHD, Bibliothèque, Ms F° 15.



by Vauban, completed with general maps [FIG. 7], plans of attack executed during the sieges of these cities, as well as the maps, sections and elevations of the fortification works, and of military, but also civil buildings. Thus, one finds in the atlas devoted to the fortified city of Landau, a plate illustrating, in floor plan and elevation, the gates of the city [FIG. 8] or another showing the detail of the elevation of the city hall [FIG. 9]. This representation of the gates of Landau can be related to a letter from Vauban to Tarade dated 22nd March 1700, which specifically mentions the design of the gates to the fortified city of Landau:

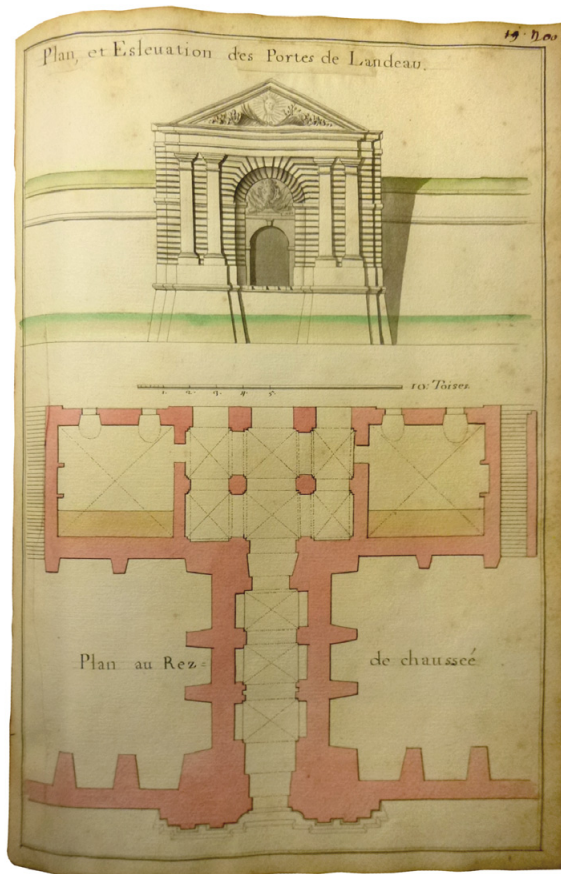


FIG. 8 «Plan et Eslevation des Portes de Landeau», in the atlas entitled *Mémoires, projets, plans et profils des fortifications de Landau exécutées suivant les desseins de Mr le Mareschal de Vauban par le Sr Tarade, Chevalier de l'ordre de St Louis, directeur des Fortifications d'Alsace*. Vincennes, SHD, Bibliothèque, Ms F° 15.



FIG. 9 «Elevation de l'Hotelle [sic] de Ville de Landau», in the atlas entitled *Mémoires, projets, plans et profils des fortifications de Landau exécutées suivant les desseins de Mr le Mareschal de Vauban par le Sr Tarade, Chevalier de l'ordre de St Louis, directeur des Fortifications d'Alsace*. Vincennes, SHD, Bibliothèque, Ms F° 15.

«[...] With regard to the four designs of gates in your style, the 3rd is the one I like best as it is the simplest. It is also the one which is closest to those of Mr. Mansart. It could be imitated in the four gates and observing, 1st to make the entrances 9 ½ feet wide between two straight bases, 2nd to give 13 feet height from the middle of the threshold to the key-stone, 3rd to give three feet thickness to the right bases, 4th to make the drum of half columns very simple, with no other ornamentation except for that of the cut of the stone, as clean as possible and from the surplus, following the designs of Mr. Mansart, as the king has ordered it in this way. I would like, however, the trophies in the modern style and the sun to be better accompanied than by cornucopia which do not suit the frontispiece of a fortified city which should have nothing that is not terrible. There should be as little projecting from the frontispiece of the gates as possible and there should be no other entry or exit except that of the main gate [...]»³⁶.

This letter from Vauban shows how the conception of city gates reveals a complex practice, notably the choice of the decorative elements, the fruit of numerous exchanges among the proposals made by Jules Hardouin-Mansart, the king's first architect, those

FIG. 10 «Face extérieure du costez du Rhin de l'entrée de Brisack, du dessein de Mr Tarade», in the atlas entitled *Mémoires, projets, plans et profils des fortifications du Vieux Brisack exécutées suivant les desseins de Mr le Maréchal de Vauban par le Sr Tarade, Chevalier de l'Ordre de St Louis, Directeur des Fortifications d'Alsace*. Vincennes, SHD, Bibliothèque, Ms F° 13.

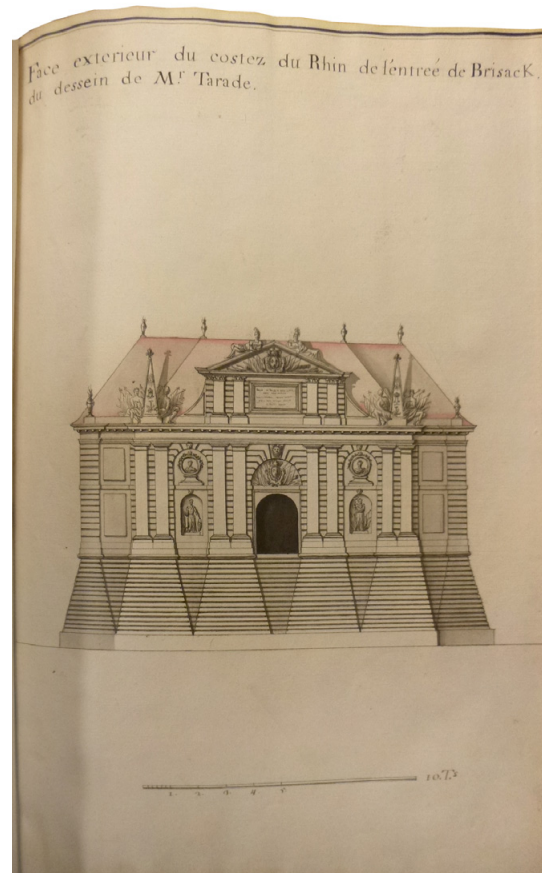
of the regional director of fortifications, controlled and redesigned by Vauban, Louvois or even Louis XIV³⁷.

On this question of the conception by several individuals of the plans for the fortification of the cities, it is interesting to notice that it is only in the atlas dedicated to Vieux-Brisach that Tarade attributes to himself the authorship of a certain number of creations, distinguishing them by the indications that figure in the titles of the atlas plates. One thus finds:

- Plan of attack for the last siege of Brisach managed by the marshal Vauban. The niche in the covered way was made by Mr. Tarade's brigade after which the enemies capitulated after 13 days of cutting;
- Plan of the ground floor, of the pavilion at the entry gate on the side of the Rhine with its guardhouses and portico from the design by M. Tarade;
- Exterior face on the Rhine side of the entry into Brisach from Mr Tarade's design;
- Interior face of the pavilion of the Breisach gate, from the design by Mr. Tarade, in the fortified city, at the Rhine gate;
- Floor plans of the hospital in Vieux Brisach, from the design by Mr. Tarade.

Among these creations, especially memorable is that of the Rhine gate [FIG. 10], the exceptional ornamental treatment of which contrasts with the simplicity of the gates at Landau mentioned above [see FIG. 7]. Its very rich decorative repertoire, featuring statues of Hercules and Mars placed in niches on one side and the other of the gate, the use of a number of fire pots and obelisks surrounded by trophies of arms in the upper parts, is usually more generally found in civil rather than military architecture, reminiscent of Tarade's training as an architect. This same decorative richness can be found in the gates to the fortified city of Fribourg-en-Brisgau.

Jacques Tarade, squire, knight of the order of Saint Lazarus of Jerusalem, knight of the order of Saint Louis, and supernumerary infantry brigadier, retired from his post as



director of fortifications in 1712, at the age of 72, in favour of his son-in-law, the engineer Antoine Duportal (1672-1750). He then returned to settle in Paris, in his house on the rue Neuve des Petits Champs, parish of Saint-Roch. Through his marriage and during his career, Tarade had gradually amassed a comfortable fortune essentially in real estate, which was detailed in his post mortem inventory. He was thus the owner of several apartment houses, of which two located on rue Darnetal [currently rue Greneta] had belonged to his wife and were brought to their marriage, a house in rue Villedo, one in rue Riche-lieu and another in Saint-Jacques de la Boucherie, each one bringing in rent.

Tarade died on 8th January 1722, at the age of 82, in his house on the rue Neuve des Petits-Champs, and is buried in one of the chapels of the church of Saint-Roch which he had leased³⁸.

NOTES

1. BLANCHARD, 1979, pp. 92-93 ; p. 110-111 ; BLANCHARD, 1981, pp. 707-708.
2. GERBAUD, 2007, pp. 83-84.
3. In the original: «*juré du roi es œuvres de maçonnerie*» [TN].
4. GERBAUD, 2007, p. 84. In the original: «*envoyés aux petites écoles jusques et pendant trois années consécutives*».
5. GERBAUD, 2007, pp. 85-94; GERBAUD, 2008-2009, pp.163-180.
6. TARADE, 1870, pp. 121-122. In the original: «*aurait été chargé de la conduite des architectures de nos Maisons Royales, du Louvre à Paris et de Versailles, de 1662 à 1664*».
7. Inventory of the property of Jacques Tarade squire, commandant of Dol, knight of the orders of St. Louis and St. Lazarus. 10th February 1722. 10 février 1722 (Paris, Archives nationales de France, MC/ET/CXVI/233).
8. In the original: «*du restant des ouvrages de maçonnerie faits tant au Louvre, palais des Thuilleries, à la Bastille et à l'Observatoire qu'au Château de Versailles*» [TN].
9. ROCHAS D'AIGLUN, 1972, p. 626. In the brief biographical note devoted to Tarade, Rochas d'Aiglun indicates that the engineer had been a structural entrepreneur for the Versailles menagerie. Unless he confused him with his brother, Odile Tarade (1637-1719), architect and entrepreneur for the king's buildings.
10. COJANNOT and GADY, 2017, pp. 105-121.
11. [Drawings of the Church of Saint Peter in Rome. The first and largest of all the Churches in the Christian world] [TN].
12. DEUTSCH, 2015, p. 191.
13. TARADE, [1713].
14. In the original: «*les grandes occupations que le dit Tarade a eu pour le service de Sa Majesté ne luy ont pas permis de les faire mettre à jour plus tôt*» [TN].
15. Monday 19th January 1669. Marriage contract of Jacques Tarade and Marie Lanier (Paris, Archives nationales de France, MC/ET/LXXXVII/211).
16. Inventory of the property of Jacques Tarade squire, commandant of Dol, knight of the orders of St. Louis and St. Lazarus. 10th February 1722 (Paris, Archives nationales de France, MC/ET/CXVI/233).
17. Files of the officers of the Ancien Regime. Dossier Tarade. Jacques Tarade, directeur des fortifications d'Alsace (Vincennes, Service Historique de la Défense, GR 1 Ye 23902).
18. TARADE, 1870, pp. 121-126.
19. Letter from Vauban to Louvois, 13th April 1673.
Vauban wrote to Louvois on the subject of the fortifications in progress in Nancy. He asked him to take five stone carvers from Liège as he needed many and indicated that [there is a stone dresser at Ath, named Tarade, who could recruit and take them]. In the original: «*y a un appareilleur à Ath, nommé Tarade, qui pourrait les recruter et les conduire*». (Vincennes, SHD, GR 1 M1 1745).
20. BLANCHARD, 1981, p. 708.
21. Series of letters from Tarade to Louvois. (Vincennes, SHD, GR 1 M1 1745).
22. ROCHAS D'AIGLUN, 1972, p. 293. In the original: «*Sa Majesté n'est pas satisfaite que vous ayez permis que Tarade et Plotot aient monté la tranchée, parce qu'elle ne veut pas que vous vous serviez d'ingénieurs qu'Elle n'a pas nommés, et encore moins que vous vous exposiez à faire estropier un homme qui conduit tous les ouvrages d'une province comme l'Alsace. Elle désire donc qu'aussitôt cette lettre reçue, vous les renvoyez et ne souffrez pas qu'ils remettent le pied dans le camp*».
23. In the original: «*d'homme plein d'ombrage*» [TN].
24. In the original: «*comme je suis le meilleur de vos amis*» [TN].
25. Letter from Vauban to Tarade. Paris, dated, 7th December 1699 (Paris, Archives nationales de France, Fonds Rosanbo, fonds Vauban, 161 Mi / 45, pièce 11). In the original: «*[...] vous devez être avec vos subalternes comme le ponce avec les quatre doigts de la main, c'est-à-dire être toujours de concert avec eux, le roi ne vous ayant pas mis ce que vous êtes pour exercer une autorité despotique, mais bien une concertée avec eux, notamment avec l'ingénieur en chef sans la participation duquel on ne doit pas remuer une pierre*».
26. Letter from Tarade to Vauban. Strasbourg, dated 17th August 1699 (Paris, Archives nationales de France, Fonds Rosanbo, fonds Vauban, 161 Mi / 45, pièce 2). In the original: «*[...] Que jamais personne de tous ceux qui sont sous vos ordres ne les ont reçus et exécutés avec plus de respect, d'estime, de vénération et de soumission que moi.*
Je crois même avoir assez marqué mon attachement depuis 30 années non seulement par ma soumission et mes respects en exécutant vos ordres, mais pour tout ce qui vous appartient et tout ce qui a rapport à vous, puisque c'est par inclination que je vous honore au plus haut degré que tous ceux qui sont établis auprès de vous, je n'ai rien oublié même dans toutes les conversations où je me suis trouvées à soutenir fortement vos projets contre les esprits contrariants, mais j'ai fait ce que j'ai dû et rien de plus, mais au moins j'ai satisfait en cela à mon devoir et je ne croyais pas qu'il vous dû rester aucun doute sur cela, puisque voici la première fois que vous m'accusé d'avoir manqué au respect que je vous dois depuis un si long temps que j'ai l'honneur de servir sous vous. Je pêcherais contre la reconnaissance et je serais tombé dans une ingratitude que je sais mortellement et dont je suis incapable.
[...] Mais comme voilà la 2^e lettre par ces temps que vous me maltraitez au sujet de ce nouvel entrepreneur [Regemorte] et que vous êtes prévenu en sa faveur contre moi sans sujet et sans l'avoir merite, j'aime mieux tout abandonner que de me voir exposer d'avantage à cela. Aussi bien vous me mettez hors d'état par vos sanglants reproches de lui faire faire son devoir pour la solidité des ouvrages ni pour rendre justice aux ouvriers. Car de temps en temps je serai la victime de ses plaintes, quelque mal fondés qu'elles soient et comme toute mon application n'est qu'à remplir mon devoir et à vous satisfaire, si je n'y puis pas réussir, il n'est pas juste que le roi se serve d'un si mauvais sujet que moi qui cause le retardement de ses ouvrages. Suivant ce vous me

- mandez il ne me restera, Monsieur, que le déplaisir d'être détruit par un homme à qui j'ai fait tous les plaisirs que j'ai pu [...]. Voilà, Monsieur, tout ce que j'ai à vous dire là-dessus en vous priant, Monsieur, si j'ai encore l'honneur de servir sous vos ordres, de suspendre vos jugements contre moi jusqu'à ce que vous m'ayez entendu. C'est une justice que l'on accordera à tout le monde dans tous les tribunaux et je pense que vous ne me la refuserez pas».
27. *Lettres de noblesse pour le sieur Tarade*, granted in Versailles in the month of January in the year of our Lord 1683, recorded in the Paris Parliament on 18th March 1684, in TARADE, 1870, pp. 121-126. In the original: «qu'ils puissent prendre la qualité d'écuyers et gentilshommes, et comme tels parvenir à tous degrés de chevalerie et autres, réservés à notre noblesse, [...]. Et [...] lui permettons en outre et à sa postérité de prendre et porter leurs armoiries timbrées, telles qu'elles seront cy empreintes et réglées».
 28. NASSIET, 2007, pp. 237-255 and DREVILLON, 2007, pp. 1113-1116. In the original: «Idée d'une excellente noblesse et des moyens de la distinguer par les générations».
 29. In the original: «Tout homme de guerre, de vie irréprochable qui aurait été 20 années ingénieur militaire, ou capitaine d'infanterie, ou de dragons ou de cavalerie, ou commissaire d'artillerie, grades que nous considérons tous comme équivalents, et qui pendant ce temps là aurait donné plusieurs marques de valeur et fait quantité de bonnes actions bien prouvées, la qualité d'anobli» [TN].
 30. The date of the making of Tarade's portrait by Seüpel is mentioned in LE LONG and FEVRET DE FONTETTE, 1775, « Liste de portraits de Français illustres. Tarade, (Jacques de) », p. 271.
 31. COJANNOT and GADY, 2017, pp.19-31.
 32. On the subject of manuscript military atlases read ORGEIX and WARMOES, 2017.
 33. Memoranda, projects, maps and profiles of the fortifications of Landau executed following the designs of marshal Vauban by M. Tarade, knight of the order of Saint Louis, director of fortifications of Alsace. *Mémoires, projets, plans et profils des fortifications de Landau exécutées suivant les desseins de Mr le Mareschal de Vauban par le Sr Tarade, Chevalier de l'ordre de St Louis, directeur des Fortifications d'Alsace* (Vincennes, SHD, Bibliothèque, in-F° 15).
 34. Memoranda, projects, maps and profiles of the fortifications of Fribourg en Brisgaw executed following the designs of marshal Vauban by M. Tarade, knight of the order of Saint Louis, director of fortifications of Alsace *Mémoires, projets, plans et profils des fortifications de Fribourg en Brisgaw exécutées suivant les desseins de M^r le M^{al} de Vauban par le S^r Tarade, Chevalier de l'Ordre de St Louis, Directeur des Fortifications d'Alsace* (Vincennes, SHD, Bibliothèque, in-F° 14).
 35. Memoranda, projects, maps and profiles of the fortifications of Vieux Briscak executed following the designs of marshal Vauban by M. Tarade, knight of the order of Saint Louis, director of fortifications of Alsace *Mémoires, projets, plans et profils des fortifications du Vieux Briscak exécutées suivant les desseins de M^r le M^{al} de Vauban par le S^r Tarade, Chevalier de l'Ordre de St Louis, Directeur des Fortifications d'Alsace* (Vincennes, SHD, Bibliothèque, in-F° 13).
 36. Letter from Vauban to Tarade. Paris, dated 22nd March 1700. (Paris, Archives nationales de France, Fonds Rosanbo, fonds Vauban, 161 Mi / 45, pièce 16). In the original: «[...] A l'égard des quatre dessins de portes de votre façon, le 3^e est celui qui me plaît le plus comme le plus simple. C'est aussi celui qui approche le plus de ceux de Mr Mansart. On pourra l'imiter aux quatre portes y observant, 1^e faire les entrées de 9 pieds ½ de large entre deux pieds droits, 2^e de donner 13 pieds de haut du milieu du seuil à la clef de la voûte, 3^e de donner trois pieds d'épaisseur aux pieds droits, 4^e de faire les demy colonnes à tembours tout simple, sans aucun ornement autre que celui de la coupe de la pierre, la plus nette que le sera possible et du surplus, suivre les dessins de Mr Mansart, le Roy l'ayant ordonné ainsi. Je voudrais cependant que les trophées fussent à la moderne et que le Soleil fut mieux accompagné que par des cornes d'abondance qui figurent mal sur le frontispice d'une place de guerre qui ne doit rien avoir que de terrible. Il faut donner le moins de saillie au frontispice des portes qu'il sera possible, et n'y faire d'autre entrée ni sortie que celle de la grande porte».
 37. MIGNOT, 2007, pp. 254-258.
 38. Inventory of the property of Jacques Tarade squire, commandant of Dol, knight of the orders of St. Louis and St. Lazarus. 10th February 1722 (Paris, Archives nationales de France, MC/ET/CXVI/233).

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III

BETWEEN POWER AND KNOWLEDGE

Engineering and power in Renaissance Sicily: loyalty, conflict and «symbiosis» in the papers from the central archives of the Kingdom

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Regarding the link between engineering and power – the latter in the Sicily of the old régime embodied in the person of the viceroy, the monarch’s representative on the island – the 16th century in Sicily, opened under the aegis of the House of Austria, with an extraordinarily strong relationship, destined in time to assume an almost «symbiotic» nature. We refer to the one that existing between the viceroy Ettore Pignatelli, Count (and later Duke) of Monteleone¹, and the royal engineer, Pietro Antonio Tomasello da Padova², who was in fact the first person to occupy this specialist position in the administrative organisational structure of the kingdom³.

The viceroy had not only trusted him, in 1523, with the execution of the royal order commanding the radical modernisation of the fortifications in Trapani, Milazzo and Syracuse, cornerstones of the defensive system, to which would later be added the two capital

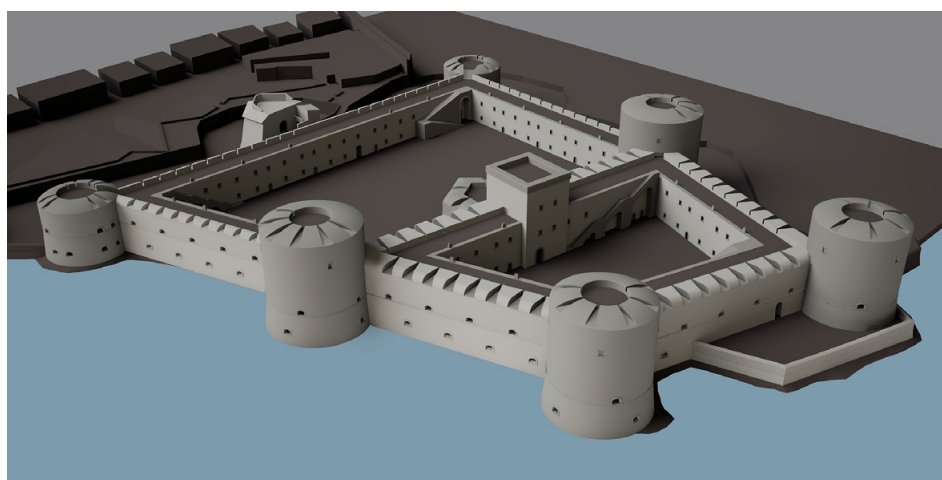


FIG. 1
PIETRO ANTONIO
TOMASELLO DA
PADOVA, *Progetto
per il Castellam-
mare di Palermo*,
1524. From VESCO,
2014, p. 11.

cities of Palermo and Messina⁴, but had found in the person of Tomasello the man who could realise his personal building ambitions. He commissioned him almost immediately after the engineer's arrival in Sicily in 1524 to transform, most probably at his own proposal, the Castellammare, the 15th century citadel in Palermo where Pignatelli had transferred the seat of the viceroyalty some years earlier in 1517, into an extraordinary war machine, a true example of an architecture of power. The project, which was never completed, foresaw the construction of a powerful fortress, the emblem of imperial authority – the capital having been shaken by as many as three fierce revolts in only a few years, of which the last, the most dangerous because of its Francophile connotations, had been bloodily put down just the previous year⁵ –, a stronghold, that could also have accommodated the viceroy's residence inside, and that with its imposing bulk would have dominated the old port of La Cala⁶ [FIG. 1].

Thus, Tomasello must have become one of Pignatelli's trusted men – having spent fifteen years by his side – and the old viceroy had never withdrawn his favour and protection, as when already ill and perhaps getting old, to alleviate the work load and decrease his travels from one end of the island to the other, he had given him the support of another engineer, a Venetian like himself, Antonio Ferramolino da Bergamo⁷. Besides, it must not be forgotten how several years before in 1526, the viceroy had made a great effort to free Tomasello, captured by Barbary pirates in the waters of the Strait of Sicily, while he was sailing to Malta charged with redirecting the fortification project in Mdina⁸.

The relation between viceroy and engineer was potentially unstable, inevitably conditioned by the circumstances, but also exposed to the excesses and changing moods of individuals who were so charismatic as to sometimes become unmanageable, like rulers and statesmen, as for example, Juan de Vega.

With regard to Vega, we know that, on one side – Aricò has made it very clear in his timely and accurate studies – the engineer Pedro Prado was his operational arm, his projection, the result of a deep bond that united the two men for those 7 years when the *hys-*



FIG. 2 DARINEL [GILLES BOILEAU DE BOUILLON]. The capture of Africa. *Aphrodisium. La Sphère des deux mondes: composée en Français par Darinel, pasteur des Amadis*, 1555, Jean Richart au Soleil d'Or, Antwerp.



FIG. 3 SILVESTRO SIGONIO, *De Immortali Gloria, quam Illustrissimus Ioannes Vega sibi comparverit ex gubernanda Sicilia, et Aphrodisio, cui Africae nunc est nomen, expugnato...* (frontispiece), 1553, Rome, apud Valerium Doricum et Aloisium fratres Brix- ienses. Perugia, Biblioteca Comunale Augusta.



FIG. 4 GEORG BRAUN and FRANZ HOGENBERG, *Civitates orbis terrarum...*, IV, 1588, Köln, apud Godefridum Kempensem. La nuova fortezza dell'addizione urbana di Palermo. Palermo. Lam. 56, detail.

pano [Hispanic] engineer served on the island, where he had been summoned, as an architect, again to realise the personal ambitions of a viceroy, in this case to radically transform the old castles in Palermo and Messina into lavish modern renaissance palaces, worthy of representing the new *Caesar* Charles V – and perhaps not only him, so far away⁹.

On the other side, moments of tension between Vega and Prado were not lacking, related perhaps to their different ages and thus different cultural educations, for example, when regarding certain works on the walls of Catania, the viceroy in 1551, severely replied without mincing his words that «the design and drawing of the said curtain that the said Prado had done was mistaken and needed to be drawn again in another place»¹⁰.

However, Vega, who evidently was not a technician and could not express himself through designing, had found once more in Prado the appropriate and indispensable instrument to give physical form to his own dreams of grandeur.

Just after returning victorious to Palermo from the Africa expedition, in 1550, which ended with the conquest of the important Tunisian stronghold [FIG. 2] – a victory of the Christian coalition that the viceroy wanted at all costs to transform into his own triumph, trying to overshadow the other protagonists¹¹ and even sponsoring a series of eulogising texts¹² [FIG. 3] – he got Prado to draw up a plan for the expansion of the Sicilian capital which involved completely redesigning *alla moderna* the defences of the walled front facing the sea, with the construction of monumental angular bastions, as well as sloping walls with terrepleins¹³ [FIG. 4]. And like a small beautiful jewel set in the curtain wall, there was to be a new city gate, the Africa or Vega gate, again designed by Prado, to hold

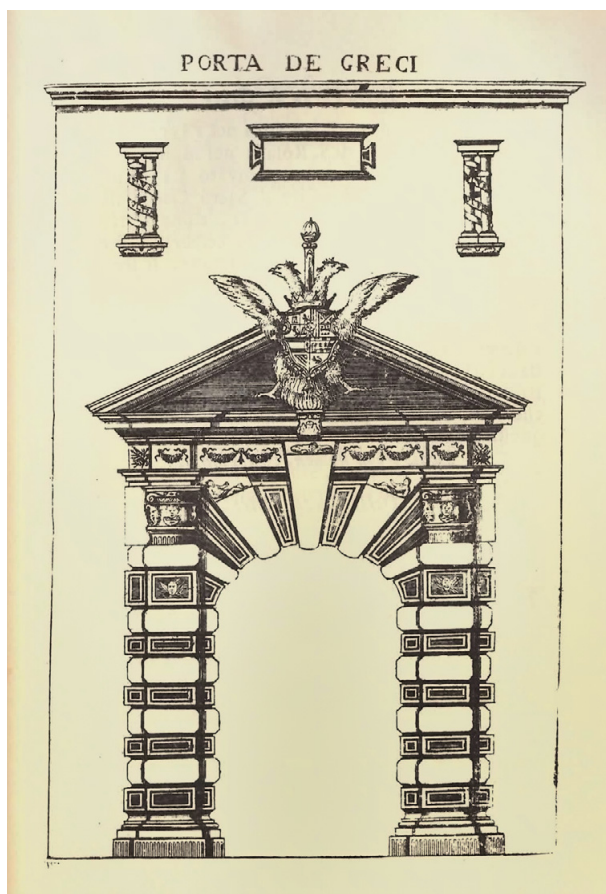


FIG. 5 LIPARIO TRIZIANO [ANTONINO MONGITORE]. Porta de' Greci. *Le porte della città di Palermo al presente esistenti...*, 1732, Palermo, nella Stamperia di Antonino Gramignani.

the door wings of one of the gates from the fallen city, taken symbolically to Palermo together with the war booty [FIG. 5]. The gate, with its marble decorations, sculptures and epitaphs steeped in rhetoric, and with its two-fold dedication was clearly destined to celebrate the glory and feats at war of the Spanish viceroy, that same Juan de Vega, victor in an epic conflict that the greatest Sicilian poet of the 16th century, Antonino Veneziano, did not hesitate to define in his eulogistic verse, carved on the plaque surmounted by the great marble imperial eagle, sculpted by the atelier of the Gagini, with a clearly classical citation, as the *Quarto Bello Punico*¹⁴ [FIG. 6].

On the other hand, unequivocal proof of the relationship which was close, but not devoid of contradictions, between the two was the fact that Vega, at the conclusion of the works on the extension of the city de-

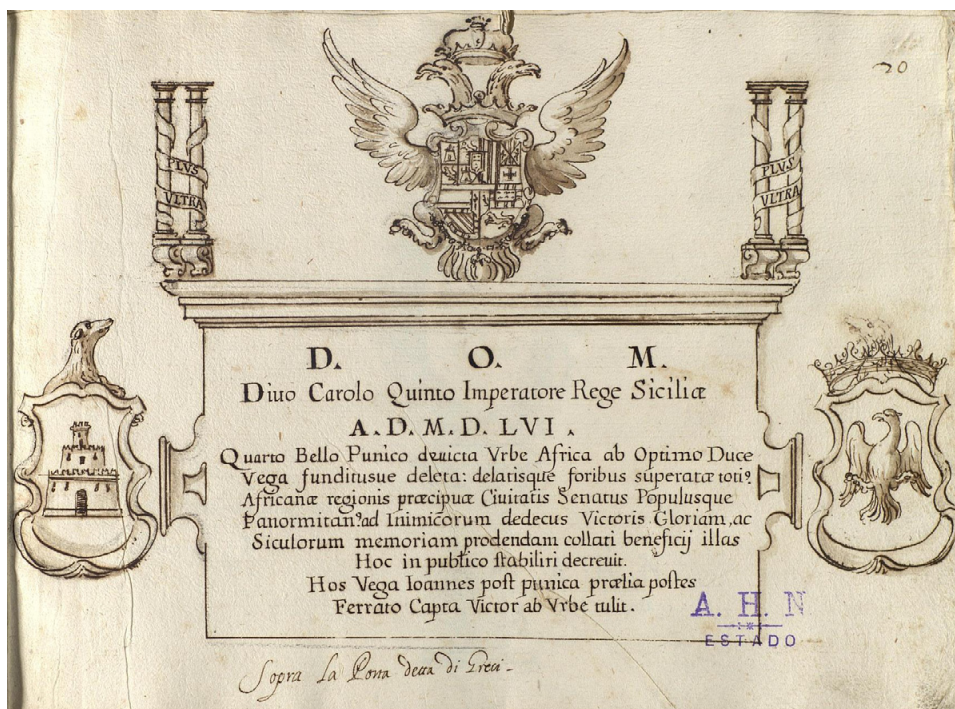


FIG. 6 *Sopra la porta detta di Greci.* España. Ministerio de Cultura y Deporte. Archivo Histórico Nacional. Estado, Mapas, planos y dibujos, 731, f. 20.

FIG. 7 *Alli due fronti del Belguardo detto di Vega.*
 España. Ministerio de Cultura
 y Deporte. Archivo Histórico
 Nacional, *Estado*, Mapas, planos
 y dibujos, 731, f. 21.



signed as a true *fortaleza* [fortress], had attached to the sides of the monumental bastion which received his name, the Vega bastion, at that moment the largest in the Sicilian capital, two large marble shields supported by two telamons representing kneeling Turks with stumps for arms – a decorative device of which there remains a 18th century drawing – on which were carved in large letters DEDIT VEGA ET NOMEN ET FORMAM. Thus, the true authorship of the project was shouted to the four winds and in fact immortalised, consequently overshadowing the role of the engineer Prado¹⁵ [FIG. 7].

Neither is it easy to clarify the incidents linked to the recruiting of another engineer to serve the Kingdom of Sicily, Antonio Conte, of whom almost nothing was known until recently, except that he was the author of a Codex on Sicilian fortresses still missing today, of which there remains just one copy of a project design for the new arsenal in Messina, sought by don García de Toledo¹⁶ [FIG. 8].

One thing seems to me to be certain: Antonio Conte was Juan de la Cerda, the Duke of Medinaceli's man, was associated with him, and was of his own *hechura* [making], arriving on the island, in the wake of the viceroy at the moment of his inauguration as the governor of Sicily. I have already had the opportunity previously to document his recruitment as an engineer in the Tripoli venture, with an appropriate licence issued in September 1558¹⁷; however new documentation now makes it possible to backdate his engagement as an engineer for the Kingdom of Sicily to 24th December 1557, when he joined the viceroy in Catania where the court had been residing for some months, to present him with the royal letters patent¹⁸. However, inexplicably, it seems there is no trace of him during the first two first years of his assignment in the papers from the Sicilian court, conserved in the State Archive in Palermo. In contrast this same documentation clarifies the reason for another long period of absence of the engineer, a forced departure from the island that lasted for almost a year and a half in 1560 and 1561.

Hired, as we have seen, by the Duke of Medinaceli to have him by his side in the African expedition, he had given the best of himself, designing, with the collaboration of



FIG. 8 ANTONIO CONTE, *Progetto per l'arsenale di Messina*, 1573. España. Ministerio de Cultura y Deporte. Archivo General de Simancas. MPD, 25, 084.

the masters at arms Bernardo Aldana and Sancho de Leyva, an interesting star-shaped fort around the old Tunisian fortress on the island of Gerba. Once completed, the new fortified establishment was re-baptised Filípalcázar [Philip's castle] in honour of the Spanish sovereign, a work which won Conte first the praise of the 16th and 17th century chroniclers¹⁹, and subsequently the even more enthusiastic admiration of the historian Carlo Promis centuries later²⁰. It was a fortress with four angular bastions at the corners and with receding sides which, according to a very common military custom, would have been named after the different contingents of the coalition to which their construction was entrusted²¹ – de la Cerda, Doria, Gonzaga and St. John the Baptist in honour of the Grand Master of the Order of Knights of the Hospital of St. John of Jerusalem.

This is how the construction of the Filípalcázar, initiated on 19th March 1560, was narrated, the true shape of which we can recognise thanks to a beautiful contemporary representation²² [FIG. 9] and thus appreciate the originality of the structure:

«Thus accompanied (*the General*) by most of the gentlemen of the council he saw the fortress and having carefully considered the site, Bernardo Aldana and Sancio di Leva were proposed for the work, and to the whole company of masters. Antonio Conte, because of his knowledge of architecture, drew a plan of how to furnish it with bastions. He adapted the directions to the ancient discipline, following orders however, and the precepts of the captains there present, he formed four very beautiful cavaliers, that with long and

FIG. 9 SEBASTIAN MÜNSTER,
Cosmographia Universalis...,
1572, Basel, ex officina Henric-
petrina. Il forte di Filipalcazar;
Der Insel Gerbe.



proportioned circumferences, with sharp points and hollow curtain walls, formed the shape of a star»²³.

Further documentation reveals how the engineer, in the tragic destruction of the Christian fleet, was taken prisoner by the Turks – together with many others – and was forced into slavery, to be released only after more than one year and four months, in December 1561²⁴, no doubt thanks to the intervention of the viceroy and the court. This imprisonment, however, caused him to return to Palermo seriously ill²⁵.

For a long time it was believed that behind the recruitment of the man from Brianza, but already a citizen of Catania, Giovanni Antonio del Nobile – a *German*, as has been indicated up until now²⁶, though just on paper – was the figure of the *Great Sicilian*, the president of the kingdom Carlo Aragona Tagliavia, Duke of Terranova²⁷, who appointed him, with a suitable licence, *ingegnere maggiore*, [chief engineer] – the first time that such a specific adjective like *maggiore* o *supremus* had been used – on 2nd March 1572²⁸. In fact, not only was del Nobile already on the island, as is shown in his already acquired citizenship of Catania *iure matrimonii*, but he was also already in the pay of the royal court, part of its military apparatus, although in a secondary role. The Marquis of Pescara Ferdinando d'Avalos d'Aquino had in fact already appointed him, in April of the previous year, captain of the artillery of the Etnian city²⁹.

Moreover, Aricò has issued a very severe judgement on the engineer, a judgement according to which Carlo d'Aragona, in spite of this appointment, actually had no faith in the professional excellence of del Nobile; so much so that in 1576, in a missive sent to the court in Spain, regarding the building sites of the Sicilian fortifications, he stated «I fear that the money and time is being spent in vain for the scant satisfaction that can be got from the engineer who is there»³⁰.

In contrast, the image that the papers, after so many centuries, present of del Nobile, is of an astute man, sure of himself, even arrogant in his manners, an engineer who did not consider himself second to anyone, not only with regard to the colleagues who had preceded him in the service in Sicily, but also any other technician at the service of the European courts; so much so that he did not hesitate to express his conviction even in writing on more than one occasion. For example, in 1576, when requesting the same salary as his predecessor, Antonio Conte, who had died in Lepanto in 1571, he stated that:

«he was not above the petitioner either in practice nor in science in such a profession, as can be seen from experience of this fact, and denying that there is any man of such a profession in the service of His Majesty who is paid less than the petitioner, one a hundred, another eighty, another sixty, another fifty escudos a month, the person who earns less has forty, and similarly those who are at the service of other princes are more privileged»³¹.

Del Nobile, because of Carlo d'Aragona's refusal³², had to wait another five years before obtaining the rise he requested, which was not granted until 1581, and even on that occasion he did not hesitate to bring into question in his letter, not only Antonio Conte, but almost all his predecessors, Pedro Prado and even Antonio Ferromolino, underlining at the same time – a point which we know to be true – how the duties, tasks, responsibilities and obligations, and expenses of the royal engineers had meantime increased enormously with regard to the past:

«the other engineers who have been in this kingdom, like the late Antonio Sferramolino, Petro Prado and Antonio Conde, apart from the ordinary settlement of three hundred escudos, had another two hundred escudos allowance on the buildings of the Kingdom, and this petitioner serves as well as any other has served, and today the expenses are much more burdensome than they were in the time of the said engineers, and the circumstances in which the profession of engineer is carried out are greater now than at that time, so it should be agreed that this petitioner should not be treated less well than the others»³³.

But another reason leads one to believe in a possible negative judgement from the president of the Kingdom with regard to his *chief* engineer.

When, following the dramatic events of the fall of La Goulette in Tunis, which occurred between the end of August and beginning of September 1574, Carlo d'Aragona, worried that the Turkish fleet, on route to the Levant and passing through the Strait, would be able to attack Messina, the second city and – as is known – capital in the shade of the Island, did not entrust the fortification works, even though provisionally, to del Nobile, but rather considered that he should engage another military engineer.

In fact, he decided to bring to the kingdom – we still do not know where he came from (maybe from Tunis itself) – the Neapolitan Giovanni Antonio Salamone, perhaps the son of the painter Giovan Domenico, active in Campania around the middle of the 16th century and representative of the urban aristocracy of Naples³⁴. On the first of November 1574, Salamone, as one of the royal engineers, assumed the assignment, originally intended as just *pro tempore*, of supervising the works that the authorities of

Messina were loudly demanding³⁵, frightened, even more after the tragic news coming from overseas, by the possibility of an Ottoman attack which threatened to be extremely violent – the people of Messina still vividly remembered Reggio, on the other side of the Strait, plundered and burned down by the Turks less than 20 years before in 1558.

Salamone, destined as we will see to become one of the trusted men of Marco Antonio Colonna, must have already appeared to Carlo d'Aragona as a man of proven skill in the field of military architecture, so much so that in the letter sent to reassure the Senate in Messina that had requested the dispatch of «an engineer and practical person», he stated that «you can rely on his advice and experience»³⁶.

In confirmation of the high esteem that the Duke of Terranova had for Salamone it should be noted that he immediately wanted to extend the assignment, providing that on the journey from Palermo to Messina the engineer should stop first at Cefalù, then Patti and afterwards at Milazzo, the latter the keystone of Tyrrhenian defences and protective outpost of the city on the Strait, charged with drafting a project design for its fortifications³⁷, and this in spite of a first proposal presented just a couple of years before by del Nobile. In this regard, I consider that this design, lost to date, can be recognised in the one already attributed to Salamone of which a copy is conserved in the Department of prints and drawings at the Uffizi and generically dated, until now, around 1576³⁸ [FIG. 10]. Perhaps the reason why Salamone was immediately appreciated by Carlo d'Aragona was due to his capacity to optimise the management and organisation of the work sites, in order to limit the costs of the work and guarantee a better and more accurate execution.



FIG. 10 GIOVANNI ANTONIO SALAMONE, *Progetto per la fortificazione di Milazzo*, s.d. [1574; ma copia]. From DUFOUR, 1992, p. 159.

But the person who really became Giovanni Antonio Salamone's protector must have been the famous viceroy of Sicily Marco Antonio Colonna, succeeding the Duke of Teranova in the government of the island³⁹.

What is indisputable is the bond that united the Roman commander to the nobleman Tiburzio Spannocchi, who he had brought with him to Sicily at the time of his inauguration⁴⁰, it is also true that the destiny of Salamone, almost certainly by virtue of his specific abilities and cultural and professional interests, was above all linked to the great architectural projects, this time not military but civil, true architectures of power promoted by the Roman nobleman: the monumental Customs building, later destined to be the seat of the Law Courts is attributed to him; his role as director of the «endless» works on the Royal Palace in Palermo is also well known; recently the authorship of the Porta Nuova, one of the architectural emblems of the Palermo of Marco Antonio Colonna, and also symbol of the viceroy himself in the capital, has also been attributed to him⁴¹.

Moreover, the fact that there were problems between Colonna and the *chief* engineer del Nobile is shown on more than one occasion in the papers in the central archives of the Kingdom of Sicily. One of the most delicate situations was when, in May 1584, the Roman viceroy, evidently doubting the abilities of del Nobile, had no qualms about sending the new royal engineer, who had recently taken over from Salamone after his death, the Tuscan Giovan Battista Collipietra⁴², to Syracuse where there were works on the *new fortification* that the Spanish monarch had set his heart on, to diligently «survey the said building and lands and meticulously measure them»⁴³. Colonna's concern was to manage to have «certain and true information» on the progress of the works and the measurement of what had in fact been built⁴⁴. It was not without surprises.

A year later, when the works were terminated, the president of the Kingdom Giovanni Alfonso Bisbal, the Count of Briatico, taking over from Colonna in the government of Sicily, could only take note that the measurements made by Collipietra «exceed those made by the engineer Giovanni Antonio Nobile in almost ten thousand *canne*», a far from insignificant difference and one that the court had to contend with⁴⁵. For this reason, it was decided to send to Syracuse to settle the controversy which had arisen between the two technicians, Collipietra and del Nobile, not a military engineer, but a «very experienced person»⁴⁶, one of the most celebrated architects at the Sicilian court since the time of García de Toledo, *mastro Giorgino* that is, the man from Piedmont, Girogio Di Faccio, one of the prominent figures of Sicilian architecture in the second half of the 16th century⁴⁷.

The fact that the bond between Colonna and Salamone was a strong one that was not just linked to their reciprocal institutional roles, but also was composed of esteem, affinity and probably to some degree friendship – despite the engineer having to refer to the former as «my lord and highly esteemed master», simultaneously declaring himself to be «his most humble servant»⁴⁸ – could perhaps be proved by the will, to date unedited, of Salamone himself, dictated to the notary on 16th July 1583 while he lay in bed seriously ill in his room in Palermo⁴⁹, a document that sheds a little light on the private life of the engineer.

As often happened to men who were committed to this profession which obliged them to travel continuously but also to transfer themselves from one end to the other of Italy or even Europe or the Mediterranean, there was no time or means for raising a family,

there was no space for a private life. In the wills those to be remembered were frequently distant relatives, who had stayed in their place of origin, parents, brothers or sisters, together with pages and loyal servants and companions of a life spent on work sites and battlefields. This was the case, over half a century before, judging by the will of Tomasello, in 1528⁵⁰, and it continued the same according to that of Salamone.

His brother Giovan Leonardo, was named as universal heir, while specific bequests were destined, apart from to the page Vincenzo da Palermo, to his mother Diamante and his brother Ferdinando, all still in Naples, while the most pressing thought of the engineer, in this last farewell, could have been for none other than his brother Alessandro, held as a slave in Barbary, for whose ransom he left sums of money and precise orders for his parents and executors.

Four days later, the engineer passed away, the notary in drawing up the inventory of the property existing in the house had not noted books – and this is surprising –, but rather the instruments involved in his profession: boxes containing so many compasses and copper pens to draw in ink, wooden rulers to draw lines, a brass compass «to measure and draw up plans», an instrument which was indispensable for the trigonometrical surveys that Salamone had a great talent for⁵¹. And it is for this reason that Colonna unfailingly sent him to take the measurements and make surveys, but above all, that he played a fundamental role, more than any other royal engineer, in that epic undertaking initiated by the court of the construction in Sicily of a modern and efficient infrastructural system of bridges on a territorial scale⁵².

It was in this very context of projects that Salamone, must have proved to «his» viceroy, with expertise, reports and *discourses*, his abilities, his technical competence, his evident inclination for scientific management and a systematic and classificatory approach, which in my opinion, would also be evident in the anonymous pamphlet *Documenti per i soprastanti delle fabbriche della Deputatione del Regno* printed in the same year of 1583, the year of his death, that should be attributed to the authorship of Salamone⁵³ [FIG. 11].

We are fascinated to discover, thanks to the documents, that in Salamone's house, not far from his work table, there were more wooden boxes filled with sketches, while many other architectural designs were displayed on the walls, certainly no less the object of pride for the engineer than the large tapestry with the heraldic insignia of the family;



FIG. 11 – ¿GIOVANNI ANTONIO SALAMONE?, *Documenti per i soprastanti delle fabbriche della Deputatione del Regno*, 1583, Palermo, Giovan Francesco Carrara. Palermo, Biblioteca Centrale della Regione Siciliana «A. Bombace», Palermo.

– perhaps there was also the one of the lost panel of the Porta Nuova mentioned in the sources⁵⁴ – as definitive evidence of the interests, talent and many works commissioned from him also as an architect in those nine years of service in Sicily⁵⁵.

We are surprised to learn from his last two wishes that all the designs of civil architecture («*desinna architectoris*») which «*sonno apizati per casa*» [are hanging on the walls at home] had gone to a certain master Tommaso, a painter – perhaps this was the man from Palermo Tommaso Laureti, pupil of Sebastiano del Piombo who had moved to Bologna many years before⁵⁶ –, while Salamone left another bequest to the viceroy Colonna – either though friendship or gratitude, or rather only for reasons of secrecy and state security, as had already been documented in similar cases⁵⁷ – «*omnia desinna et discursa super reparationibus et fortificationibus huius Regni*», both designs of military architecture, and discourses on the same topic, reports, probably codices or even treatises⁵⁸.

On the other hand, in general, in a few other more serious or even extreme situations, the relationship between the viceroy and the court on the one side and the engineer on the other were gravely compromised, or damaged.

An example is provided by the very famous and esteemed Tuscan engineer Camillo Camiliani⁵⁹, on whose honesty and fidelity the documentation casts a sinister shadow.

The papers conserved in the central archive of the Kingdom of Sicily reveal, in fact, how in 1585 the treasurer of the Kingdom of Sicily had accused the technician of fraud in the making of some artillery pieces, imputing the robbery of some metallic materials, going so far as to have him incarcerated in the Palermo gaol, accusations to which the engineer, perhaps rightly, immediately showed himself willing to settle, rather than defend himself:

«Camillo Camiliani, engineer, informs Your Illustrious Lordship that he finds himself incarcerated in the prison of the magistrate's court in the city of Palermo on the instances of the respected general treasurer for a claim against him for some 500 onze for the lack of a certain metal that was delivered to him to make artillery, and because the petitioner has his very important reasons and it is important that these reasons are verified, all the more so because the petitioner has in this city of Messina a piece of artillery which he wishes to deliver to the royal court for the missing amount that he owes, so that little or nothing will remain to give to the said royal court»⁶⁰.

As proof of operations and conduct that seem now to have been more than doubtful, it appears that years afterwards, in 1606 – this time documented in papers conserved in the General Archive of Simancas –, Camiliani, having been transferred to Spain some time before, was once again under suspicion. The Madrid court had in fact charged him for embezzlement committed years before during his service in Sicily, in the works of the fortifications of Licata: «this man has acted badly and should be punished for the crime that he committed in certain worksites which were commissioned in Licata, from which he unfairly took a large sum of money from the court»⁶¹.

But from this point on, the proof can be found in papers from archives well beyond the confines of the Kingdom, far from Sicily, papers like these Sicilian ones, that wait patiently to be heard after centuries of silence.

DOCUMENTARY APPENDIX

1.

Archivio di Stato di Palermo, Notai defunti, Alessandro Timpanaro, min. 898, c. 473r.

Palermo, 1583, luglio 16.

L'ingegnere regio Giovanni Antonio Salamone, malato, nella sua abitazione palermitana detta al notaio, alla presenza di testimoni, le sue volontà testamentarie.

Die xvi julii XI.e indictionis 1583

In Dei nomine quod est vera salutis origo cunctis pateat evidenter et sit notum qualiter magnificus dominus Johannes Antonius Salamone, de civitate Neapolis, Panhormi commorans, mihi notario cognitus, jacens in letto infirmus corpore, sanus, Dei gratia, mente, sensu et intellectu suaque propria ratione benecompos et presente loquens, timens divinum iudicium, aliquis repentinum et humane fragilitate ne forte (quod absit) ab hoc seculo intestatus decederet, volens igitur dum vitae terminus et memorie integritas sibi instant de bonis suis temporalibus disponere, habitis prius pro cassis, irritis, revocatis et nullis omnibus aliis testamentis, codicillis, donationibus causa mortis et alterius cuiusvis ultime voluntatis per eum hactenus confitis atque suum autem posterius testamentum preteritis valere possit omnimodo robboris firmitatem.

In primis dictus testator nunc et semper et presertim in hora eius mortis comendavit animam suam eterno et immortalis Deo sueque intemerate virgini matri Maria, sancto Michaeli arcangelo, sancto Joanne Battiste, sanctis Apostolis et omnibus sanctis Curie celestialis, cadaver vero suum die sui obitus sepelliri jussit in venerabile parrochiali ecclesia sancti Jacobi Maritime Panormi in terra, in loco benvisio et eligendo per magnificum dominum Bonfranciscum Bonamici, eius fideicommissarium, et voluit ipse testator quod eius cadaver sepellatur ad horas duas noctis intus dictam parrochiam cum quatuor aut sex intorciis, cui parrochiali ecclesie testator ipse legavit uncias decem ponderis generalis semel solvendas tam pro loco ubi reponendum est cadaver ipsius testatoris quam pro omnibus et quibuscumque juribus dicte parrochiali ecclesie sancti Jacobi Maritime Panormi competentibus competituris quoquomodo ac quomodocumque et quibuscumque.

Item ipse testator legavit venerabili presbitero eligendo et nominando per magnificum dominum Bonfranciscum Bonamici fideicommissarium uncias quatuor ponderis generalis semel solvendas ad effectum per dictum presbiterum celebrandi missas sancti Gregorii et sancti Amadoris in altaris cappelle Archieviscovorum fundato in Maiori Panormitane ecclesia propter inremissionem et veniam peccatorum ipsius testatoris.

Item ipse testator legavit arce malorum oblatores panormi uncias quatuor ponderis generalis semel pro malis oblatis in cereis.

Item ipse testator legavit don Paulo Pellicano, canonico Panormi, tarenos viginti quinque ponderis generalis semel solvendos ad effectum docis per dictum don Paulum capiendi bullam anno quolibet per spatium annorum decem in remissionem et veniam peccatorum ipsius testatoris et onoravit conscientiam ipsius domini Pauli adimpleat voluntatem ipsius testatoris.

Item ipse testator legavit dicto don Paulo Pellicano, canonico Panormi, uncias duas ponderis generalis semel solvendas ad effectum per dictum don Paulum celebrandi per spacium anni unius missam unam in remissionem et veniam peccatorum ipsius testatoris in illo die constituto in sancta bulla in altari privilegiato Archieviscovorum Maiori Panormitane ecclesie.

Item ipse testator voluit et ordinavit quod sequuta eius morte solvatur eius aromatario tota illa pecuniarum summa in qua erit creditor ipse aromatarius ipsius testatoris pro medelis et aliis rebus capitis et capiendis pro dicto testatore.

Item ipse testator constituit eius fideicommissarium et exequutorem presentis legati dittum magnificum dominum Bonfranciscum Bonamici cui auctoritatem dedit et plenum possit libere capere a tabula panormi eisque gubernatoribus uncias 40 et tarenos xxv in dicta tabula existentes ad nomen ipsius domini Johannis Antonii salamoni quod dictus Bonfranciscus captis pecuniis predittis secus habeat, velit et debeat reddimere magnificum Alexandrum Salamone, eius fratrem, captivum apud infedele existentem, et elapso anno uno a die mortis ipsius testatoris in antea numerando et non redempto ipso Alexandro tali casu dictus magnificus Bonfranciscus habeat, velit et debeat predictas uncias 40.25 tramittere in civitate Neapolis et illas solvere redemptioni Cattivorum ipsius civitatis Neapolis ad effectum per dictam redemptionem Neapolis reddimendi ipsum Alexandrum a manibus dictorum infedelium seu aliarum personarum et casu ipso Alexandro non si potissi recattari ditti casi ipso testatori ditti uncias 40.25 li lassao et lassa a lo magnifico Joan Leonardo Salamoni, suo fratri.

Item constituit in fideicommissarios ad sollicitandum redentionem ipsius Alexandri magnificos dominos Diamante et Ferdinandum Salamoni, eius matrem et fratrem, quibus auctoritatem dedit et plenum posse sollicitare et solvere redemptioni ipsius Alexandri et cetera necessaria pro recattitu preditto facere.

Item ipse testator legavit ditte magnifice Diamante Salamoni, eius matri, illos ducatos quinquaginta monete Naepolis ipsi testatori debitos per Hieronimum, eius nipoti, et aliis totidem sibi mutuatis sine contrattu et alios ducatos quinquaginta monete Neapolis ipsi eius matri solvendos super eius bonis et ... sequuta morte ipsius testatoris et sunt pro omnibus et quibuscumque juribus ditte eius matris competentibus et competituris super hereditate ipsius testatoris quomodocumque et qualitercumque.

Item ipse testator legavit Vincencio di Palermo, eius bagio, uncias 4 semel solvendas de quibus existentibus in eius arca et vestimentum unum valoris scutorum octo in decem et hoc pro serviciis prestitis et prestandis per dictum Vincencium ipsi testatori usque ad eius mortem.

Item ipse testator legavit Joanni Jacobo Scallio to eius servitori scutos duodecim tarenorum duodecim singulo scuto pro omnibus serviitiis per dictum Joannem Jacobum prestitis et prestandis ipsi testatori usque ad eius mortem.

Item perchè ipso testatori havi commiso in Spagna ad litteri del signor Leonello Burlamacchi si spenda ala summa di scuti cento per la conferma del suo officio che teni in questo regno di ingignerì perciò voli ipso testatori che si haggiano di pagari tutta quella summa di dinari si li a spiso et spenderà per ditto officio ala summa però di li dicti scudi cento et non ultra, li quali dinari per ditto effectù spisi et si spenderanno sia che non passa la summa di li ditti scuti cento chi ipso testatori effective supra li beni et dinari di ipso testatori haggiano in contanti di pagari senza darli calumpnia.

Item ipse testator legavit Ferdinando Salamoni, eius fratre, uncias 20 ponderis generalis semele solvendas sequuta morte ipsius testatoris in contanti pro omnibus et quibuscumque juribus ipsi eius fratri competentibus et competituris super hereditate ipsius testatoris.

Item ipse testator legavit Excellentie Illustrissimi et excellentissimi domini Proregi huius Regni Sicilie omnia desinna et discursa super reparationibus et fortificationibus huius Regni.

Item ipse testator legavit mastro Thome pittori omnia desinna architectoris ut dicitur sonno apizati per casa.

Item ipse testator dixit esse creditor pro eius salario pro serviciis prestitis huic urbi Regio Palacio huius urbis et regie curie in certa pecuniarum summa.

Item ipse testator dixit esse creditor Joanne Aloysio Candido scutorum viginti sibi per dictum testatorem mutuatum sine cautela.

Item ipse testator dixit esse creditor Francisci di Napoli unciarum trium pro aliis sibi per dictum testatorem mutuatis sine cautela.

Item ipse testator dixit in eius arca libere catenam auri valoris scutorum centum trigintaquinque et scutos aureos et argenteos in circa centum nec non unum sichettum argentei et certas cocharellas et brochetta argenteos.

Item ipse testator jussit, fecit, creavit et sollemniter ordinavit suum heredem universalem magnificum Johannem Leonardum Salamoni, eius fratrem, super reliquis omnibus bonis suis mobilibus, stabilibus, redditibus, juribus et accionibus universis pecuniis nominibus debitorum ubique existentibus et melius apparentibus salvis legatis, fideicommissis et dispositionibus supradictis et infrascriptis.

Item ipse testator voluit, ordinavit et disposuit ac mandavit et mandat quod omnia legata per dictum testatorem facta in presenti eius testamento solvi et adimpleri habeat, velit et debeat dictus dominus Bonfrancescus Bonamici eius fideicommissarius et dictus magnificus Joannes Leonardus, eius heres universalis, non possit nec valeat se in dictis legatis et in satisfacione ipsorum se intromittere nec impedire illud quod dictus dominus Bonfrancescus ordinabit et solvet pro legatis predictis.

Item ipse testator constituit eius fideicommissarium et exequutorem sui proprii testamenti dictum magnificum Bonfrancescum Bonamici, cui auctoritatem et potestatem liberam et generalem administrationem tribuit et concessit [...].

Testes rogati ab ipso testatore videlicet: magnificus Claudius Belmonti, magnificus Hieronimus Bonamici, Antoninus Xarrino, Paulus Comparino, Petrus Mainotta, Fabricius Bruno et Dominicus Xagi.

2.

Archivio di Stato di Palermo, Notai defunti, Alessandro Timpanaro, min. 898, c. 483r.

Palermo, 1583, luglio 20.

Il notaio Alessandro Timpanaro, su richiesta del magnifico Bonfrancesco Bonamici, esecutore testamentario dell'ingegnere regio Giovanni Antonio Salamone, sopravvenuta la morte di questi, pubblica l'inventario ereditario dei suoi beni, redatto quattro giorni prima.

Die xx julii XI.e indictionis 1583

Repertorium bonorum condan magnifici Joannis Antonii Salamoni fattum ad petitionem et instantiam magnifici domini Bonfrancesci Bonamici, fideicommissarii et exequutoris testamenti dicti condan magnifici Joannis Antonii Salamoni, fatti in attis meis notarii infrascripti die 16 instantis mensis julii, videlicet:

In primis intro uno sacchetto tra monita d'argento et oro unzi quaranta et tarì 2
item una catina d'oro di piso di una libra, una unza, una quarta et meza
item uno sichetto d'argento di piso di una libra et tri unzi
item dui cochiarelli et dui brochini d'argento di piso di unzi tri et mezo
item quatro segi di nochi ordinarii et un'altra di riposo

item uno quatro di l'acquamondo
 item uno forzero a baulo di coiro nigro
 item dui paviglioni di tila di casa bianca con soi cappelli et soi gruppi usati
 item tri camisi usati
 item uno jpponi di tila bianca tagliato usato
 item un paro di besti di coxini di tila bianca
 item 13 spidoni usati
 item una burza con una catina di ramo jalno
 item setti fazoletti usati
 item 4 stuyavucchi vecchi, dui tovagli di tavola usati
 item otto fazolecti di tila usati
 item dui pari di cauzoni di tila, uno novo et l'altro usato
 item dui coxini grandi et dui piccoli con soi imbesti di tila bianca lavorati con sita russa
 item un altro forzeri a baulo di coiro nigro
 in primis una robba di panno virdua con so passamano, usata
 item uno ferriolo di panno nigro usato
 item uno casacchino di villuto nigro usato
 item un paro di calzoni di raso lavorato nigro novo
 item uno firriolo di tioletta foderato di villuto nigro, usato
 item un altro ferriolo di sita falza foderato di terzanello, usato
 item uno casacchino et un paro di cauzoni di villuto rigato, usati
 item un casacchino et uno paro di calzoni di villuto pardiglio guarnito di trino d'argento usati
 item uno camisolio di lana vecchio
 item 14 cauzetti di seta vecchi et un paro novi
 item uno berrettino di sita vechio et un altro di lana
 item uno coiroto con soi bottoni di cristallo usato
 item un paro di stivali nigri di portari tra scarpi
 item uno jpponi di raso nigro senza manichi usato
 item un paro di cauzetti bardigli di sita usati
 item quattro linzola usati
 item una buxula di ottoni di misurari et pigliari pianta
 item un paro di attaccagli di vilo vechi
 item una caxia di tavoli d'abito
 item una frazata russa usata
 item una cultra di livanti usata
 item dui coxinetti di bordato usati
 item uno pezo di barracani russo
 item dui berrittini bianchi
 item uno cappello di feutro, uno biritino di damasco russo vecchio
 item un altro pezo di barracani russo
 item uno tornialetto di sita cangianti
 item una supratavula di panno virdi vechia
 item dui pezi di spallera con barracani vechi
 item un manto di raxia di visito vechio con so roboni
 item un'altra caxia di tavoli d'abito vechia con diversi designi
 item uno caxettino con altri designi
 item dui scatolini con chenco compassi et dui altri compassi et tre penni di ramo jalno

item un'altra caxia di abito
 item dui pari di cauzoni di calvaccari, uno di panno et l'altro di coiro vechio
 item uno casacchino di calvaccari vecchio
 item uno parasoli foderato di taffità viridi usato
 item dui balichi di coiro
 item una frazata russa vechia
 item dui gualdrappi usati di panno
 item una coperta di sella
 item una sella di coiro usata con sua coperta
 item un'altra caxia simili
 item uno portali di panno con soi armi usato
 item una frazata russa vechia
 item uno barracani vechio
 item dui linzola di servitori usati
 item tri chiomazzi di terra vechi
 item uno quatro deorato con la Spasmo
 item dui regoli di ligno
 item dui tavolini di nochi con soi trispiti
 item 4 tavolini piccoli di tavula con soi trispiti
 item uno pumo di paviglioni deorato
 item uno coxino di calvaccari di coiro
 item uno vaso di teniri acquarosata
 item uno fiasco grandi di stagno et dui altri piccoli
 item tri candileri di ramo piccoli
 item una coppa piccola di ramo di teniri
 item tri letteri di tavoli con soi trispiti et quattro colonnetti
 item sei matarazi, dui boni et l'altri di terra
 item uno paro di stivali incirati
 item uno scabello di tavuli di orari
 item una scopetta a coppa con so inbesta
 item una spata
 item uno spechio grandi
 item uno quatretto di la Madonna di designo
 item dui trispiti di teniri sella
 item 4 banchetti di ligno tra boni et tristi
 item 25 platti di terra et altri usati di terra di oglio et aceto
 item uno mortaro di marmora
 item uno calamaro di piumbo
 item uno cofino pieno di pignati et altri cosi di cocina
 item uno piatto di Faenza con dui bocali et so banchetto dove si lava la fachi
 item dui incirati
 item una scopitta di pilo
 item uno tripodo di ferro, una grattalora
 item una gradiglia, una caudarella et una padella, uno coperchio di pignata di ramo, dui spita
 piccoli
 item dui coccoffelli di vitro di teniri inga
 item dui coppi di vitro

item uno affilatori di affilari cotelli
item uno cannistrello di virghi
item uno scrittoretto di abito
item quarantatri peczi di libra tra grandi e piccoli
item una berritta di volluto rizzo con vilo et naccari
item uno cavallo liardo con sua sella di villuto et freni
item uno baulo et un paro di staffi vechi et uno relogietto di vitro

Testes: magnificus dominus don Ferdinandus Romano et magnificus Petrus Bonchi.

Die 29 iulii XI.e indictionis 1583.

Magnificus Joannes Leonardus Salamoni, heres universalis dicti condam magnifici Joannis Antonii Salamoni, eius fratris, virtute publici testamenti et inventarii hereditariis facti in actis meis paulo ante, mihi notario cognitus, coram nobis sponte fatetur habuisse et recepisce a dicto magnifico domino Bonfrancisco Bonamici, fideycommissario etiam cognito etc., presente et stipulante, omnia bona et alia descripta et annotata per dictum dominum Bonfranciscum in proximo repertorio bonorum pro ut bona et alia infra, silicet:

In primis li unzi 40 chi erano contenti in caxia
item li denari sonno a la Tavula
item la catina d'oro stimata per unzi 56.6 sencza maestria
item lo sichetto d'argento stimato per unzi 5.3

De quibus bonis existentibus penes dictum dominum Bonfranciscum, solutis per eundem dominum Bonfranciscum legatis per dictum condam magnificum Joannem Antonium fattis in predicto eius testamento in quo dictus magnificus Bonfranciscus teneatur pro ut se obligat dicto magnifico Joanne Leonardo, stipulanti, reddere ei justum, bonum et legalem compotum in pace etc., et restare ipsi domino Joanni Leonardo stipulanti illud quod penes eundem dominum Bonfranciscum remanebit.

Cetero dictus magnificus Joannes Leonardus, heres universalis, dixit et declaravit cum iuramento ipsum dominum Bonfranciscum, fideycommissarium, expendisse tam pro expensis funeralibus ipsius condam magnifici Joannis Antonii quam pro aliis expensis fattis per dictum magnificum Bonfranciscum, tempore vite ipsius condam magnifici Joannis Antonii, uncias undecim et tarenos 13. Que etc. Unde, etc.

Testes: Petrus Mayne et Battista Croci.

NOTES

1. On Ettore Pignatelli and his cultural interests: SALAMONE, 2002; SALVO, 2004; MARTINO, 2006; in particular on his artistic and architectural patronage: VESCO, 2007-2008; ABBATE, 2016.
2. On the figure of Pietro Antonio Tomasello and his relation with the viceroy Pignatelli, see: VESCO, 2009; VESCO, 2009-2010.
3. On the figure of the engineer and architecture in Sicily in the early modern era see: GIULIANA ALAJMO, 1952; DI FEDE, 1998; VESCO, 2015a; VESCO, 2016b.
4. In particular on the works for the reinforcement of the walls of Trapani, planned and directed by Tomasello, refer to VESCO, 2009-2010, pp. 55-62; GAROFALO and VESCO, 2016b, pp. 165-172.
5. On the revolts in Palermo in the early 16th century: BAVIERA ALBANESE, 1975-76; TRASELLI, 1982, II, pp. 509-777; GIURATO, 2003, pp. 267-324; CANCELLA, 2007.
6. VESCO, 2014.
7. On Antonio Ferramolino: DI GIOVANNI, 1896; TADINI, 1977 and 1978; GAROFALO and VESCO, 2016a and 2016b, especially in pp. 172-178.
8. VESCO, 2009-2010, p. 65.
9. On Juan de Vega and the defence policy undertaken by him, GIUFFRIDA, 2007; on the relationship with 'his' engineer Pedro Prado, the recent contributions by Aricò are essential, also referring to the Royal Palace in Messina: ARICÒ, 2013, 2016a and 2016b. For the works carried out in the Palace in Palermo by this same Vega see instead: VESCO, 2015b, pp. 17-19; VESCO, 2017.
10. ARICÒ, 2016a, 82. In the original: «*il disegno et traza di detta tela chi il ditto Prado havia fatto andava errata et bisognava trazarse de novo per altra parte*».
11. For example, the confrontation with García de Toledo, the real protagonist of the battle, was fierce; on this see VESCO, 2017, pp. 3-4.
12. In particular, regarding the repercussion on the visual arts in the Habsburg empire of the mythical conquest of Africa, see BASKINS (2017). Data on the organisation of the African expedition, retrieved from Sicilian documentary sources, are in PALAZZOLO (2012).
13. VESCO, 2013.
14. The stone, of which only fragments remain today, was engraved with the following text in a clear attempt at a eulogy: DIVO CAROLO QUINTO IMPERATORE. SICILIAE REGE. A.D. MDLVI. QUARTO BELLO PUNICO, DEVICTA URBE AFRICA, AB OPTIMO DUCE VEGA, FUNDITUSQUE DELETA, DELATISQUE FORIBUS SUPERATAE TOTIUS AFRICANAE REGIONIS PRECIPUAE CIVITATIS, S.P.Q.P. AD INIMICORUM DEDECUS, VIRTUTIS GLORIAM, AC SECLORUM MEMORIAM PRODENDAM, COLLATI BENEFICII ILLAS, HOC IN PUBLICO STABILIRI DECREVIT. HOS VEGA JOANNES POST PUNICA PRAELIA POSTES FERRATOS CAPTA VICTOR AB URBE TULIT. Also on the gate, see VESCO, 2013.
15. The design, already published (together with the other representing the mentioned plaque on the nearby Vega gate) in VESCO, 2018, p. 128, is part of an album in which are represented the stone plaques and sculptural groups attached to gates, bastions and curtains in the city of Palermo, dated in the first half of the 18th century and perhaps to be attributed to the scholar Antonino Mongitore or his entourage; Archivo Histórico Nacional de Madrid, *Estado*, Mapas, planos y dibujos, 731.
16. This refers to the design conserved in the Archivo General de Simancas, shelfmark AGS, MPD, 25, 084. On the project for the arsenal in Messina, see ARICÒ, 2002, pp. 43-59; VESCO, 2016c, pp. 124-130, 135-136.
17. VESCO, 2015a, p. 225.
18. ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 521, c. 134r.
19. ULLOA, 1566, f. 16r; BOSIO, 1594, III, pp. 425-426; LIONARDO DA MANIACO, 1597, III, p. 64; CAMPANA, 1605, p. 100.
20. This is how the historian begins to chart the brief profile of the engineer; «Antonio Conte, the Italian engineer, won a brilliant reputation in the conquest and defence of the fort and the island of Gerba (near the beach of Barberia)» In the original: «*Bel-lissima fama acquistossi nella conquista e difesa del forte ed isola delle Gerbe (presso la spiaggia di Barberia) Antonio Conte ingegnere Italiano*»; PROMIS, 1874, pp. 684-687, in particular for the citation p. 684.
21. [Where the engineer Antonio Conte designed the fort, with the assistance of Bernardo Aldana, and Sancio Leiva, which two days later was begun with the work suitably distributed among the Nations in this way. As four bastions had to be built, one was assigned by the General to Andrea Gonzaga and the Italian infantry, one to the great commander and the religious people, the third to Andrea Doria and his men from the galleys, reserving the fourth for himself; which was turned into a defence in a few days, thanks to the enthusiastic work done.] In the original: «*Dove formava il disegno del forte Antonio Conte Ingegnere, con l'assistenza di Bernardo Aldana, e di Sancio Leiva, che due giorni dapoi fu cominciato a lavorarvi, distribuita essendo l'opera convenevolmente tra le Nazioni, in questo modo. Havendosi da far quattro baloardi, di uno fu dato il carico dal Generale ad Andrea Gonzaga, et alle fanterie italiane, d'uno al Gran comendatore, et alle genti della Religione, del terzo ad Andrea Doria, et a' suoi delle galee, riserbandosi il quarto per sè; onde con genereosa gara vi si lavorò, e ridussesi a difesa in pochi giorni*»; CAMPANA, 1605, p. 100.
22. We are referring to the woodcut entitled *Gerbe*, in *Cosmographia Universalis* by Sebastian Münster dated 1572 (Basel, ex officina Henricpetrina).
23. LIONARDO DA MANIACO, 1597, III, p. 64. In the original: «*Accompagnato dunque (il Generale) dalla maggior parte de' Signori del Consiglio vidde la Rocca, e considerato diligentemente il sito, Bernardo Aldana e Sancio di Leva furono preposti all'opera, et a tutte le compagnie de' Maestri. Antonio Conte per la cognitione dell'architettura puose in ritratto il modo di abbastionarla. Costui accomodati i sensi all'antica disciplina, seguendo però gli ordini, et i precetti de' Capitani presenti formò quattro bellissimi Cavalieri, i quali con larga e proporzionata circonferenza, con le punte acute, con le cortine incavate si rassomigliavano alla figura di una Stella*».

24. Precise information on the timing of the entry into service of Conte as the royal engineer and on the length of his stay in prison can be found in ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 521, c. 134r.
25. To the «sick» engineer, following his request, the viceroy Duke of Medinaceli agreed on an advance on his salary [to be able to cure his illness]; in the original: «*per possesse curare sua infirmità*»; ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 486, c. 114v.
26. Up until now we have been referring to what is indicated in GIUFFRÈ, 1980, p. 43.
27. On the relationship of Giovanni Antonio del Nobile and Carlo Aragona Tagliavia, refer to SCALISI, *infra*. On the latter see SCALISI, 2012.
28. He was in fact a native of Arosio, a small village on the hills of Brianza, now included in the province of Como; his place of origin was found in the licence in which he was appointed «*Ingenierum Supremum*», actually granted to the [magnificent Joanne Antonio de Nobili from Arosio, citizen of Catania]; in the original: «*Ingenierum Supremum*», *conferita infatti al 'magnifico Joanne Antonio de Nobili de Arosio, civi Cathanie'*»; ASPa, Protonotaro del Regno, reg. 345, c. 239r.
29. The licence of the artillery captain is from 8th April 1571; it is referred to in ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 589, c.n.n., 29th October 1571.
30. ARICÒ, 2018, p. 262, and for the citation p. 294. In the original: «*temo que el dinero y tiempo se gasta en vano por la poca satisfacion que se puede tener del ingeniero que alli està*». Moreover, Giuffrè, had previously underlined the [austere judgement] in the original: «*giudizio parco*» expressed by the president of the kingdom on the engineer in his letter addressed to Philip II in January 1572; GIUFFRÈ, 1980, p. 43.
31. ASPa, Tribunale del Real Patrimonio, Memoriali, reg. 222, c. 96r. In the original: «*non precedeva a lo exponenti né di pratica né di sienza (sic) in tal professione, come per esperienza del fatto si può vedere, et neghino che non chi è homo di tal professione al servizio de Sua Magestà che tenga men salario de lo exponente, chi chento, chi ottanta, chi sessanta, chi cinquanta scuti il mese, il meno che sia ne tieni quaranta, et similmente quei che stanno al servizio de altri principi sonno molto avvantaggiati*».
32. The response to the engineer's request was in fact 'non convenit pro modo'; ASPa, Tribunale del Real Patrimonio, Memoriali, reg. 222, c. 96r.
33. ASPa, Tribunale del Real Patrimonio, Memoriali, reg. 245, c. 107r. In the original: «*li altri ingigneri che sonno stati in questo Regno, come foro il condan Antonio Sferramolino et il condan Petro Prado et il condan Antonio Conde, oltre lo assento ordinario delli trecento scudi, havevano altri scudi duicento de assento sopra le fabrichi del Regno, et esso exponente serve cossi bene come habbia servito qualsivoglia altro, et hoggi le spese sonno assai piu incarii che non erano al tempo de detti ingigneri, et le occorrentie nelle quali si exercita lo offitio de Ingignerio sono maggiori hoggi che in detto tempo, convenendo che esso exponente non sia tractato manco degli altri*».
34. FILANGIERI, 1891, VI, p. 408.
35. ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 623, c. 81r. However Colonna initially ordered that the engineer Salomone should [faithfully], in the original «*inviolabilmente*» adhere to the dispositions already given by him to the Senate of Messina; ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 624, c. 118v.
36. ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 619, c. 81r. In the original: «*uno ingignero et persona pratica*», «*ve porete valere dell'indrizo et esperienza sua*».
37. ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 619, c. 96r, e reg. 623, c. 85v.
38. The design initially published in DUFOR, 1992, has been studied in VESCO, 2016a, pp. 254-255.
39. On Marco Antonio Colonna the statesman, see BAZZANO, 2003.
40. For an in-depth study of the professional activity of Tiburzio Spannocchi see the recent contribution by CAMÁRA, 2018b, which presents a more extensive bibliography on this personality.
41. FILINGIERI, 2008.
42. On Collipietra, see GIULIANA ALAJMO, 1952, pp. 18-23; FAGIOLO, 1982.
43. ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 731, c. 89v. In the original: «*reconoscere tale fabrica et opere diligentemente, et misurarle minutamenti*».
44. ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 731, c. 87v. In the original: «*certa et verace informatione*».
45. In the original: «*sopravanza quella fatta dall'ingegnere Giovanni Antonio Nobile da circa diecemila canne*». Ten thousand rods – the rod should undoubtedly be understood as a square rod, and thus a unit of surface area, – so it exceeded 20,000 square metres; ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 737, c. 138r.
46. ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 737, c. 138r. In the original: «*persona molto pratica*».
47. On Giorgio Di Faccio, see: MELI, 1958, pp. 133-135, 151-158, 180-183, 194-197; BARBERA, 1991; D'ALESSANDRO, 2007-2008); D'ALESSANDRO e D'ALESSANDRO, 2014, pp. 1-44; VESCO, 2016, p. 70.
48. ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 710, c. 54r. In the original: «*signore et padron mio osservatissimo*», «*humilissimo servo*».
49. ASPa, Notai defunti, Alessandro Timpanaro, min. 8985, c. 473r.
50. VESCO, 2015a, p. 226.
51. The inventory is in ASPa, Notai defunti, Alessandro Timpanaro, min. 8985, c. 483r. In the original: «*di misurari et pigliari piana*».
52. Related indications are in GAZZÈ, 2012a; GAZZÈ, 2012b.
53. *Documenti per i soprastanti delle fabbriche della Deputatione del Regno*, Palermo, Giovan Francesco Carrara, 1583. The text has been the subject of a first brief interpretation and has been transcribed in GAROFALO, 2004.
54. In the building contract for the completion of the Porta Nuova, in the meantime renamed the Porta Austria, with the execution of its complex decorative elements, reference is made several times to the [design of the Austrian gate made by the magnificent Salamone], in the original: «*disegno della porta d'Austria fatta dal magnifico de Salamone*», in which the different elements were [designed on a chart pasted on a panel of the magnificent Gioanni Antonio Salamone], in the original: «*designati in una*

- carta incollata ad una tavola dallo magnifico Joanni Antonio Salamone*», an elaborate diagram, mounted on a panel that was even countersigned as was the custom by the notary, was still «*existentis in possessione inginierii*»; FILINGERI, 2008, pp. 49-53.
55. The inventory is in ASPa, Notai defunti, Alessandro Timpanaro, min. 8985, c. 483r.
 56. On Tommaso Laureti: GRASSO, 2005; DETTMANN, 2010; VESCO, 2016b, pp. 72-73.
 57. On the question of the secrecy imposed on the engineering profession, as well as their production of designs, reports, treatises and models, see CAMÁRA, 2018a, and in particular on the seizure by the viceroy of Navarre, the Marquis of Almazán, of maps and designs of the engineer Paleari Fratino on his death.
 58. ASPa, Notai defunti, Alessandro Timpanaro, min. 8985, c. 483r.
 59. On Camillo Camiliani: SAMONÀ, 1933; NEGRI ARNOLDI, 1974; MAZZAMUTO, 1986; ESTELLA, 1992 and 2000; GAZZÈ, 2001 and 2009; BOSCH BALLBONA, 2013-2014; LOFFREDO, 2014.
 60. ASPa, Tribunale del Real Patrimonio, Lettere viceregie, reg. 739, c. 280v. In the original: «*Camillo Camiliani, ingegnere, dice a Vostra Signoria Illustrissima che si ritrova carcerato nelle carceri della Corte del pretore della città di Palermo ad instantia del spettabile general thesaurero per una significatoria contra di lui fatta di unzi 500 in circa per mancamento di certo metallo che li fu consignato per fare artiglieria, et perchè esso esponente tiene le sue raggione relevantissime et è necessario che dette ragioni se verificchino, tanto più che esso esponente tiene in questa città de Messina un pezo di artiglieria il quale vole consignare alla Regia Corte per lo mancamento che gli è debitore, poichè niente o poco resterà di dare a detta Regia Corte*».
 61. VESCO, 2015a, p. 227. In the original: «*este hombre ha procedido mal y debria ser castigado por el delicto que cometio en ciertas fabricas de fortificaciones que se le emcomendaron en la Licata, en que llevó injustamente de la Corte buena suma de dinero*».

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Power and design. Feudal families and fortifications in Calabria between the Sixteenth and Seventeenth Centuries

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The presence of intact and ruined urban fortifications and castles in Calabria, presumably built between the 15th and 17th centuries, has raised many questions about the exact dates and attributions of the design and building work.

There are many examples, but the archival sources on sites active since the 1540s mainly concern viceregal building works in Crotone, Reggio, Tropea, Amantea and Cosenza. These underwent radical changes from the 1530s to upgrade their site defences. Matters regarding the building sites, designers and *capomastri* [master builders]¹ who directed them and oversaw the works have been reconstructed in these locations. Excavations for deep moats, wall building and everything to do with the building sites – material procurement, transport and the labourers' working time – are detailed in daily reports.

These building sites involved applying and trying out new forms and, more particularly, allowed the transmission of knowledge. Men of arms, military engineers and architects were brought in to take care of their design and subsequent construction. These people visited the building works, moved to the region and settled there when required to oversee the works. Execution was then entrusted to the *capomastri*, who diligently reported the progress of the building works to the court, even going as far as Naples if necessary.

Little was known, however, about the feudal fortifications, which were poorly documented. To overcome this problem, noble architecture and events can be cross-referenced to reconstruct the way designs were conceived and implemented in individual fiefdoms. I will refer to Cariati, Isola Capo Rizzuto, Palma-Carlopoli and Monasterace [FIG. 1]. Though not the only sites in Calabria with 16th century fortifications, they are important because, as I shall attempt to show, they came about as a result of links and contacts between noble lords and experts as well as direct know-how of the art of fortification by feudal lords².



FIG. 1 Province of Calabria Citra and Province of Calabria Ultra, from the 16th-century drafting of the Stigliola-Cartaro Atlas (private collection). The fiefdoms of Cariati, Isola, Monasterace and Seminara are ringed (adapted by F. Martorano).

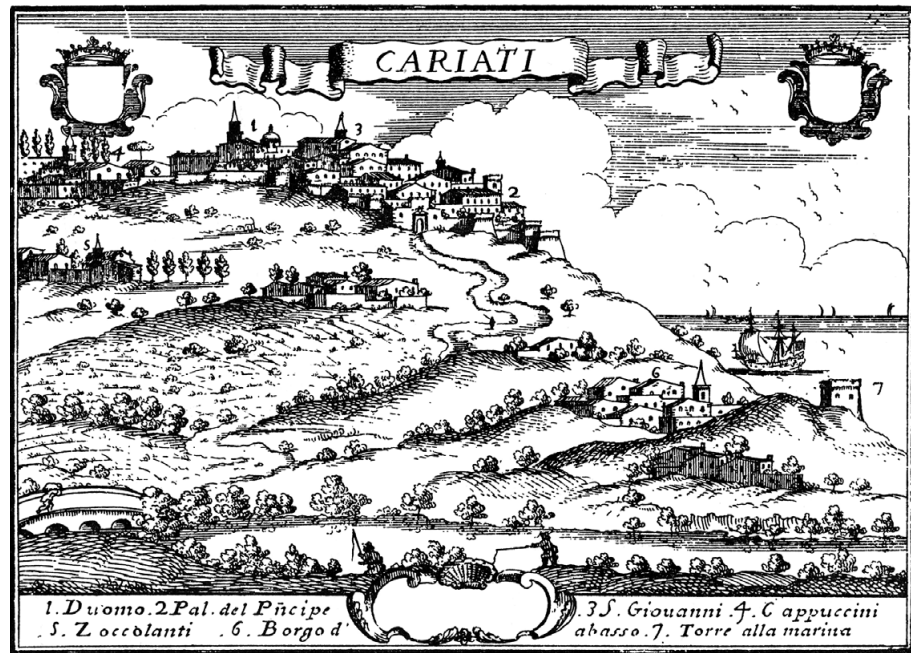
One collection in the Dipendenza della Sommaria in the Naples State Archive contains valuable information – and nothing else unfortunately – on the presence of Giacomo de Amato in Cariati: he went there on 13 May 1543 to check on the fortification works taking place «On 13 May. To Stefano Lioni of Naples, a resident of Crotone, for the rent of a horse used by Mr Giacomo de Amato to travel from Crotone to Cariati to see the design of that city for four days, 0.4»³. I believe this information is important because it provides a certain timeframe for works on the town wall as well as providing the name of the customer and a possible designer.

Who was Giacomo de Amato? The records reveal that he was the *capomastro* who definitely supported Gian Giacomo dell'Acaya in the Crotone building site from 1543. He also made a model of the castle and oversaw the building works on a daily basis⁴. In Crotone, reconstruction of the town wall and Castle was started from the end of the 1530s⁵, but the new layout of the fortification did not begin until November 1541, with Gian Giacomo dell'Acaya's arrival in Lecce. In 1545, dell'Acaya was also put in charge of the new castle of Reggio⁶.

The tenuous documentary evidence does not allow us to be certain of d'Amato's real role in Cariati: was he the designer or, as in Crotone, did he act as a supervisor and foreman, reporting to dell'Acaya, as the true architect of the design?

During that period, the Lord of Cariati was Ferrante Spinelli, son of Giovan Battista, Baron of Fuscaldo, Guardia and Paola, who was given the county free of charge by Ferdinand the Catholic in return for his loyalty. During his life, Giovan Battista Spinelli managed to expand the family's power by acquiring fiefdoms and increasing his noble ti-

FIG. 2
G. B. PACICHELLI,
*Perspective view of the
Kingdom of Naples*,
1703. View of Cariati.



tles. From 1514 to 1516, he was governor of Verona, on 22 March 1517 he was appointed royal adviser for affairs of peace and war and general commissioner of the Kingdom of Naples. On 15 December 1521, he was made a member of the Kingdom of Naples Colateral Council⁷. On 26 October 1521, he acquired the fiefdom of Castrovillari⁸. Like his father, Ferrante was a faithful follower of Charles V and took part in the siege of Catanzaro against Lautrec⁹. This meant he was also a man of arms who knew about fortifications. He was also bound to the Viceroy Pedro de Toledo by ties of friendship and the support he offered the Viceroy in 1535 against barons who wished to remove him from his post¹⁰.

Cariati was fortified to defend itself against the relentless and endless Turkish attacks¹¹, and the pre-existing walls were reinforced with scarps and equipped with jutting almond-shaped and pentagonal bastions and towers. The late 17th-century view of Pacicelli Abbey [FIG. 2] gives an idea of the fortified centre¹², with the coast also defended by a viceregal tower¹³. A



FIG. 3 Cariati. Walls highlighted in red on the aerial photogrammetric survey (prepared by F. Martorano).

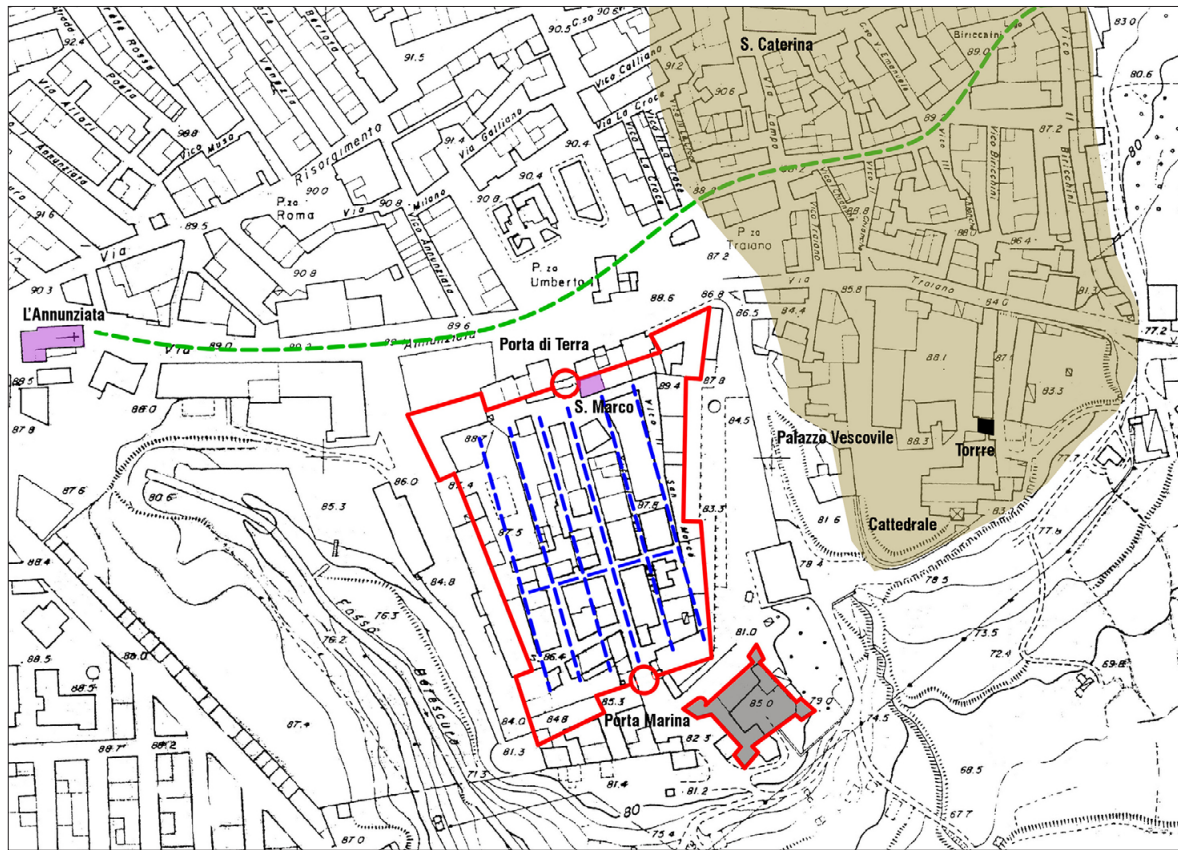


FIG. 4 Isola di Capo Rizzuto. Fortifications highlighted on the aerial photogrammetric survey. The town is on the right (prepared by F. Martorano).

present-day aerial photogrammetric survey shows the circuit of the walls in red, revealing that the 16th century encircling walls with their high base scarp are almost completely intact. Nowadays the moat has disappeared, as is usual [FIG. 3].

The present-day Isola Capo Rizzuto is located to the south of Crotone. *Turris Insule*, as it was known in the mid-16th century¹⁴, became a fiefdom of the Ricca in 1495¹⁵. It had always been a farming centre, supplying Crotone with products and goods¹⁶, but acquired a new form around the middle of the 16th century. The second feudal lord, Giovan Antonio, who inherited it in 1519 and first resided there, had a fortified citadel built in 1549. This was built next to the mediaeval centre, dominated by the cathedral and bishop's palace and defended by a tower, which is also reflected in the toponym¹⁷. The layout is simple, a square plan with bastions at the top and a corner, without bastions, defended by the castle. The encircling wall, now partially disappeared, the castle, the roads marking out long, rectangular blocks and the two ports of Terra and Marina are shown in red on a present-day aerial photogrammetric survey [FIG. 4]. Outside the walls, the church of Annunziata was built along the path connecting Isola to Crotone¹⁸. The citadel's construction date is certain, because it is mentioned in two epigraphs, one located under the *Terra* gate beneath the noble coat of arms and the second in the tomb of Giovan Antonio inside the church of S. Marco, built within the walls next to the gate¹⁹.

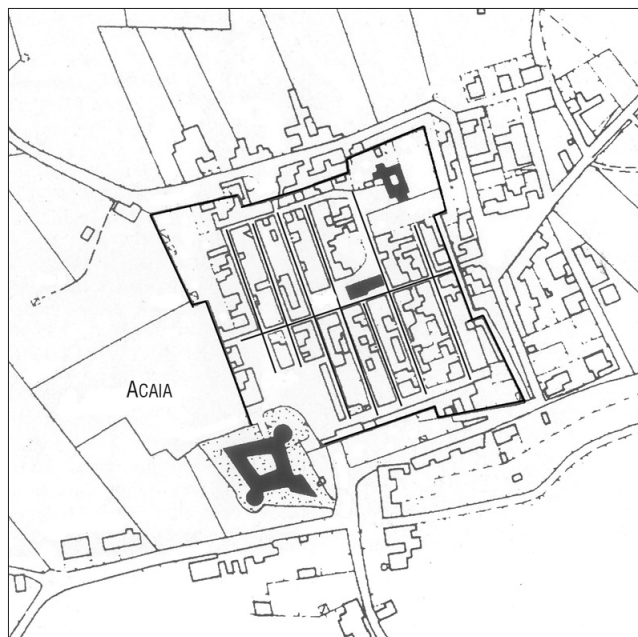
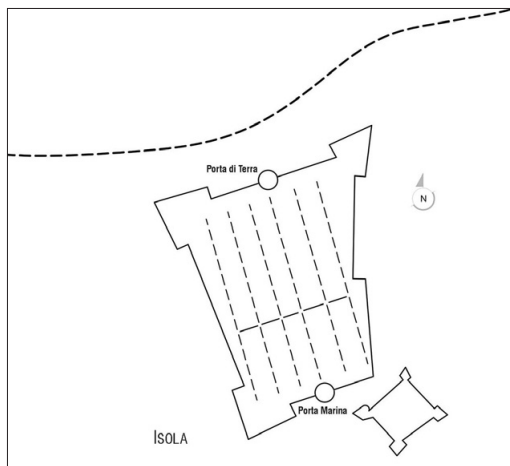


FIG. 5a-b Walled centres of Isola (Crotone) and Acaya (Lecce), showing fortifications (prepared by F. Martorano).

I compared this layout with other types in the past and would like to confirm the discrepancies that I found between the plan of Isola and that of Acaya²⁰ [FIG. 5a-b].

The latter, formerly EGINE, was fortified by Gian Giacomo dell'Acaya, who renamed it after his own family once he had redesigned the existing building system based on rectangular blocks and cut it down to fit within a ring of walls topped by bastions, one of which was replaced by a castle. Acaya's work was completed in 1535²¹.

Isola, on the other hand, was established in 1549, during the period when the *condottiero* was busy in Crotone (1541-1552), and it seems quite possible that there was contact between Giovan Antonio Ricca and dell'Acaya, partly because the recently instated Baron of *Turris Insule* relied on the military experience of Spinelli and his powerful neighbours Caraffa, lords of Santa Severina and Le Castella²². In 1543, Gian Giacomo dell'Acaya had also assumed the office of General Commissioner of the Kingdom's fortifications and was therefore responsible for the security of Calabria. There may also have been contact through Giacomo d'Amato, as in Cariati, but in this case no documentary evidence has been preserved and it is merely a hypothesis.

From the Ionian coast, we move on to the Tyrrhenian coast in the County of Seminara, a Spinelli fiefdom from 1495. It was owned by Carlo, brother of Giovan Battista, first Count of Cariati²³. Carlo Spinelli (1525?-1570?) was a famous *condottiero*. He supported the emperor in his Flanders and Picardy campaigns and certainly possessed a theoretical and practical knowledge of fortification needs and measures to be implemented to make urban fortifications efficient and fit for purpose²⁴. His various positions included a partnership with Ferrante Carafa di San Lucido, who was responsible for the *Tribunale della fortificazione*. His likeness is known to us through three artefacts from different origins: two medals celebrating him as the «Duke of Seminara»²⁵, and the surviving head of a monument erected in Seminara, capital of the fiefdom. The monument consisted of



FIG. 6a-b Medal celebrating foundation of Carlopoli, profile of Carlo Spinelli on the obverse, perspective view of town on the reverse. Paris, Bibliothèque nationale de France, Cabinet de Médailles.

a high base decorated with panels representing milestones in the history of the fiefdom, topped by a figure of the Duke²⁶.

One of the two medals²⁷ [FIG. 6a-b] and a slab adorning the monument are particularly relevant to our subject, because they also reflect the fortification, town and land planning projects implemented by Spinelli. The medal, which bears a bust of the Duke on the back, shows a representation of a fortified town crowned by the words «Carlopolis fundatio» on the front. This wording and particularly the regular layout and type of fortifications depicted clearly show that the work was newly established. It is not dated²⁸, and neither is the monument. It has been dated to no later than 1568, but the depictions and wording limit its coinage to the years after 1559, the date on which the sovereign bestowed the title of Duke on Carlisle²⁹, and prior to 1566, when the city was described firstly as *oppidum* and then *Palma nunc Carlopolis* in two fragments of ecclesiastical documents³⁰.

The small town depicted is rectangular and enclosed by a wall with bastions at the corners. The curtain walls and bastions are equipped with scarps, with a *redondone* [horizontal bead] emphasising changes in wall gradients. The walls are surrounded by a moat, which curves inwards at the bastions and changes course in front of the entrances, suggesting the presence of bridges. The greater importance of the accesses on the long side is indicated by a small tympanum-like bulge, which overhangs to confer a more imposing appearance. Canon holes are outlined in the scarp band and the scarp/wall ratio appears to be well balanced. I have produced a plan and elevation drawing of this finely detailed and thorough plan. This defines a rectangular plan layout with regular blocks, defended by walls equipped with scarps and bastions, surrounded by a moat. The two main roads are in a cross formation, with reference to the *cardus* (north-south oriented road) and *decumanus* (east-west-oriented road). They lead to four access gates, closed by drawbridges [FIG. 7].

Several examples of similar fortified towns could be used as a comparison. Examples include Villefranche-sur-Meuse (1545) and Mariembourg (1546) in the Low countries³¹, an area known to the Duke from his warrior past, but I believe that the most convincing comparison is Eliopoli or Terra del Sole, commissioned by Cosimo I as capital of the Florentine Romagna³². Cosimo Eliopoli intended it to control the border in the Montone Valley. It was designed by Baldassarre Lanci, a Siennese engineer in the service of the

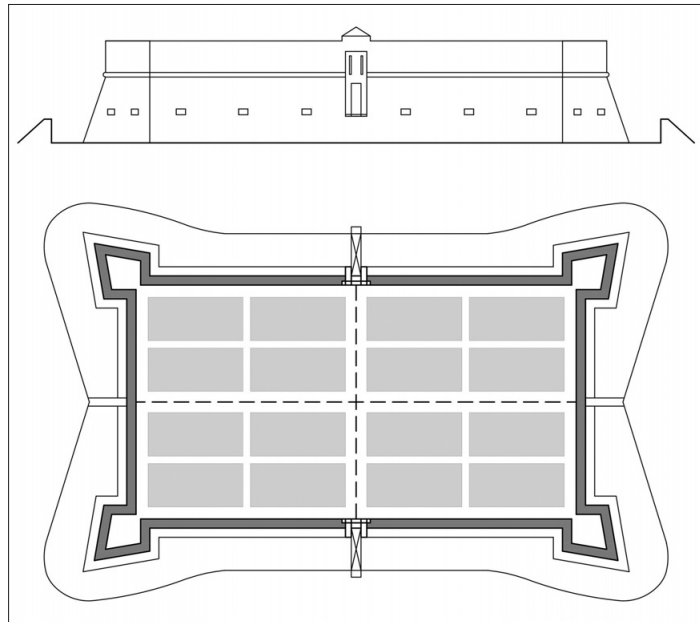


FIG. 7 Reconstruction of Carlopoli, plan and perspective view (prepared by F. Martorano).

Duke of Florence. Bernardo Buontalenti also contributed to the work when he returned from his stay in Spain. Building work on this compact fortified town built to a rectangular plan began in 1564, during the period of Carlopoli's foundation.

We will now examine the panel of the monument to Carlo Spinelli, which celebrates Charles V's entrance to Seminara in the autumn of 1535. This event took place when the fiefdom was ruled by his grandfather Carlo, first Count of Seminara³³ [FIG. 8]. The slab does not simply portray this stage of the Emperor's journey in Calabria but adds events that took place more than 30 years later, highlighting the feudal lord's role and work and the territory he ruled. The fiefdom of Seminara itself forms the backdrop to the compo-



FIG. 8
Carlo V entering
Seminara, monu-
ment to Carlo
Spinelli (detail).
Seminara (R.C.),
Palazzo Comunale.

sition. This is shown to its full territorial extent, delimited at the top by the Messina Straits and to the right by the city and port, which had always been the most important in the area and was engaged in trade³⁴.

The local capital forms the centre of the composition with its turreted walls and castle accurately reproduced. A square-based tower at the top between the town and the Strait is referred to as the Spinelli tower in later documents³⁵. The tower is absent in 16th and 17th-century records, which suggests it belonged to the fiefdom because the list contained only royal towers³⁶. However, there is a reference to a single document recording the sale of the state-owned *Terra Petrimarije*³⁷ by the sovereign to Carlo Spinelli, to enable the latter to defend the coast from possible attack. This was an unusual concession, because the court retained responsibility for coastal defence, designing and building the network of towers itself³⁸.

The panel also depicts the new town of Cardopoli that Carlo Spinelli intended to build. The feudal lord was very keen to have it built and I believe him to have been responsible for its conception. The clue to this lies in one telling detail, i.e. the depiction next to the town plan of Spinelli himself, who is looking at the plan almost as though he is directing operations. The plan is being intensely observed by a person seated below it and above a pre-existing town, which can be identified as Palma³⁹. Evidence that Carlo had something to do with these enterprises comes in the form of the Civita di Chieti fortification, which was completed in just 40 days, when he took part in the Campagna di Roma war between the papal and French forces between 1556 and 1557⁴⁰.

However, there is one difference between the town in the panel and the one on the medal. The former is square and the latter is rectangular. I believe that this not unimportant difference reveals that the panel is represented in an abstract way while the medal refers to the actual plan.

This conclusion is based on the actual construction. The post-unitary cadastral plan prior to the 1908 earthquake shows that much of Carlopoli was still intact in the late 19th century. The town wall circuit topped by bastions is still discernible and the entire layout can be reconstructed graphically because one bastion and extensive tracts of wall were still present, while smaller portions, clearly subsequent buildings, occupied the bastions to the north-east and south-west. The cruciform layout of the main roads was maintained while the internal structure had been adapted to form perfectly regular rectangular blocks⁴¹.

I will close this discussion by examining Monasterace, which became a Galeota fiefdom in 1486 and remained in the family's possession until the mid-17th century⁴². The mediaeval centre is surrounded by walls and surmounted by a square castle with bastions at the top, as can clearly be seen in an early 20th-century view [FIG. 9]. This architecturally significant presence can also be connected to work on the town fortifications, involving extending the town walls and building a new entrance gate to the centre⁴³. The type of work dates the building to between the end of the 16th century and the first half of the 17th century although no records have come to light dating the start of the building work with certainty.

Mario Galeota, who was probably the most illustrious member of the house, was born between the end of the 15th century and the early 16th century, but then only vis-



FIG. 9 Monasterace. View of castle and town from the south-east, first half of twentieth-century. G. Coniglio Archive.

ited Calabria sporadically, because his studies, acquaintances and activities were mainly based in Naples, where he participated in cultural and political life. In 1538, at the behest of don Pedro de Toledo, he led 300 men in a campaign in Calabria. Only one other visit is documented for a brief period in the mid-16th century when he was sentenced to live in the Calabrian properties, which came into his possession in 1541 and remained his property until 1583⁴⁴. He was the author of a treatise on fortifications that never proceeded beyond manuscript form and constituted the sum total of his humanistic studies and his knowledge of mathematics and military engineering⁴⁵. I do not believe that he could have built the Monasterace Castle because he lived far away from the region and because he only claimed in his treatise to have built the fortification of Catanzaro in Calabria «as I did in Catanzaro»⁴⁶, probably as a result of the campaign he led at the end of the 1530s.

The treatise is nevertheless an important planning reference because Volume I, after focusing on the instruments used for drawing and relief work, turns its attention to «*Del Fortificare*» [fortifying] and explains «the practical art of building», dwelling on topography, types of castle, whether state or private, and construction methods. Each option is set out with relevant reasoning. The thoughts expressed provide a practical knowledge of what must be done. For example, the various sections on *The condition that the drawing of the Fortress must have*, *What the drawing must be like*, the form it must take: *Whether the Fortress should be configured with many or few corners*, its size: *On measuring the length of the walls and On the proportion between one curtain wall and another*⁴⁷.

Careful consideration was given to the *belguardi* [bastions] i.e. arguing whether or not the fortress should have any and criticising their excessive length: «Wherefore it is a big mistake not to observe a sense of proportion, because many believe that they increase the usefulness without realising they increase the risk»⁴⁸. He also provides a definition of these «*belguardi*» with reference to «Structure or building, for example quadrangular», examining a study of the profile and the construction rationale⁴⁹. His detailed description comes with a diagram alongside that serves to illustrate his description accurately⁵⁰.

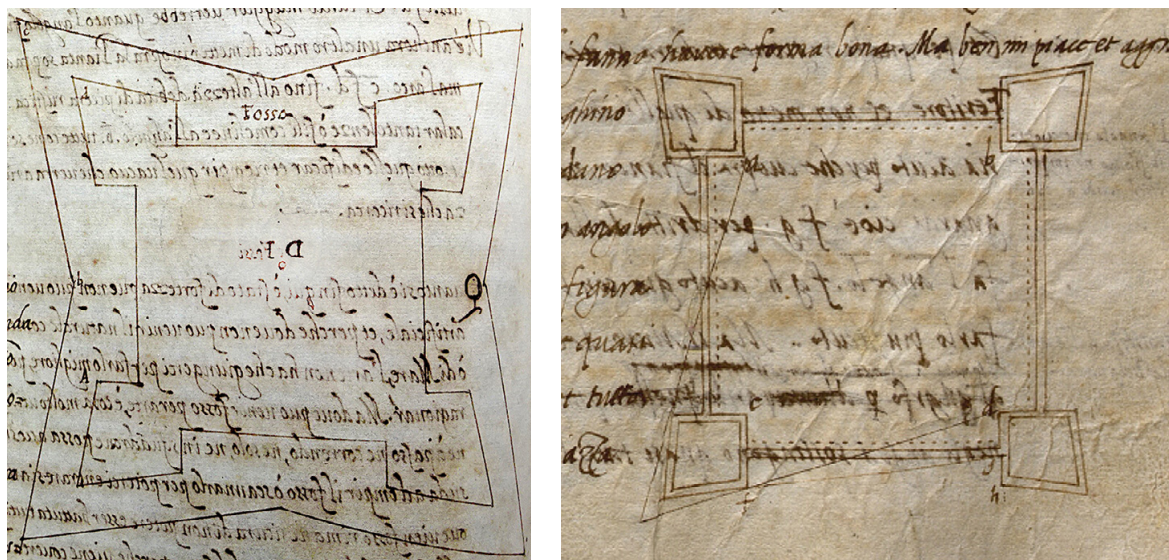


FIG. 10a-b M. GALEOTA, *Trattato*. Naples, Biblioteca Nazionale. Left, fortress with bastions, right *Beluardi quadrangoli di dentro* [belvederes with four-sided interiors].

The few drawings clearly show that Galeota was neither an engineer or an architect, but reveal his preference for drawing a square plan with bastions. Galeota acknowledged that it was not perfect but pointed out the economy of the structure: «This is why I say that configurations with fewer corners are less expensive and need less protection because they have much fewer *Beluardi* and therein lies their usefulness ...». He also believed that this configuration was better suited to small areas: «the size of the area can be used as a rule because a square structure is better suited to a small area»⁵¹.

Two of the castle plans in the Treatise, one enclosed by moats relating to the section *De Fossi* [On Moats]⁵² [FIG. 10a], another lacking a moat in in *Della proporzione dell'una cortina all'altra* [On the proportion of one curtain wall to another] [FIG. 10b], can be specifically compared with Monasterace. In particular, the latter shows bastions incorporated in the curtain wall as well as in the constructed work⁵³.

The castle [FIG. 11] also reflects other statements made in the Treatise, which mentions fortresses that fit the site naturally, defensive fortresses «that defend themselves»⁵⁴, that do not have to be used for attack but as a shield⁵⁵. In Monasterace, the site was not exploited or modified but the imposing bulk of the fortification lies in what was effectively a restricted area that ideally satisfied the principles of state-of-the-art military architecture, fit for the purpose of defending itself and its noble occupants.

While I believe there is an evident link with the Mario Galeota's Treatise, further investigation is necessary to establish the person who commissioned it. By 1652, three wings of the castle had already been built. Only the west side was missing, as is fully described in an inventory⁵⁶. This therefore gives us the latest possible date, while I believe that the start of the construction can be dated to the end of the 16th century or the early 17th century, when the previous fortification was totally destroyed and work started on a new building better suited to the requirements of an updated fortified residence⁵⁷.

We can perhaps get an idea of the volume of the previous castle from the depiction of Monasterace contained in *folio 70* of the Carratelli codex, where the town appears to

be surmounted by a castle shaped like a cylindrical tower. However, we do not know whether the representation in the Codex is simply a symbol or if there really was a tower that was subsequently demolished to make way for the construction of a square castle⁵⁸.

I suggested that the Carratelli codex can be dated to the years after 1594-1597⁵⁹ and this is therefore the earliest possible date, a period that is perfectly consistent with the fortification's spatial stratification. During this timeframe, the feudal lord of Monasterace was Giuseppe Galeota, great-grandson of Mario, who owned the land from 1590 to 1637 and to whom Philip III granted the title of Prince of Monasterace in 1628⁶⁰. I

believe that he commissioned and conceived the rebuilding of the castle, with reference to the work of his forebear Mario for the above reasons.

This discussion of the fortifications of the four Calabrian fiefdoms points to only one technical architect: Giacomo d'Amato, who oversaw the viceregal building work at Crotona during the 1540s and who is known to have been present in Cariati during restoration of the town walls. In the other cases, we have as yet no record of the name of the architects, who may only have been in charge of the execution. I believe that the designs may have been conceived by the feudal lords themselves, who sometimes consulted eminent people. This probably took place in the case of the citadel of Isola, where there was contact between Ricca and Acaya, but the other two individuals may have acted independently as they were well aware of the needs and arrangements to be adopted to defend the town centres.

I believe this to be unquestionably true in the case of the Spinellis, given their political and military history and direct experience of battle sites. A feudal lord also decided on the fortification of Monasterace. The building in this case involved not a citadel but an addition to the town walls and a castle, which reflects the application of the principles set out in the treatise in question. Lastly, I would like to stress that the designs and constructions are perfectly consistent with works carried out during the same period in other areas of the empire, where plans featuring square-shaped castles with bastions were widespread. This therefore confirms that the region's feudal lords placed it firmly on the map as far as cultural and scientific debates were concerned, through their contacts and the circulation of know-how and ideas.

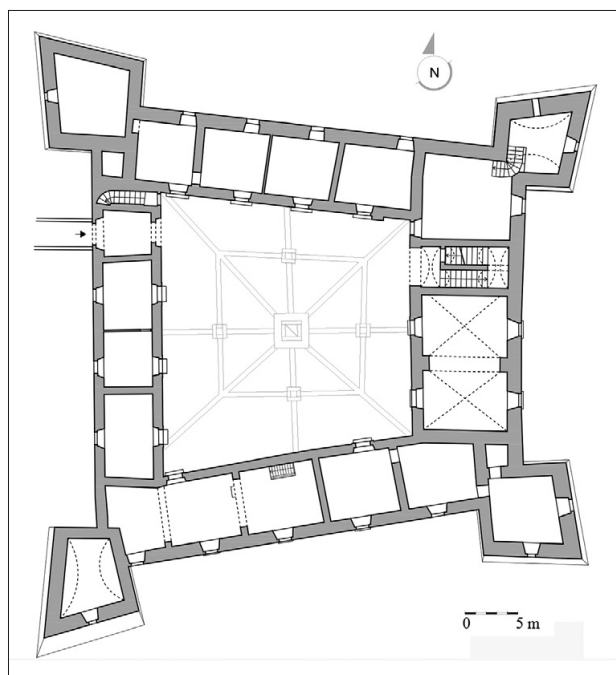


FIG. 11 Monasterace. Plan view of Castle, ground floor (relief by V. de Nittis).

NOTES

1. Antonello da Trani, Giovanni Maria Buzzacarrino, Gian Giacomo dell'Acaya, Evangelista Menga, Ambrogio Attendolo, Benvenuto Tortelli, Gabrio Cerbellon or Serbelloni: see MARTORANO, 2002a, pp. 355-356, with previous bibliography.
2. The local capitals of the fiefdoms are highlighted on a map of Calabria that I put together based on two outstanding map databases, the «*Provincie di Calabria Citra e di Calabria ultra*» [Provinces of Calabria Citra and Calabria Ultra], in a 16th century publication of the Stigliola - Cartaro Atlas. I would like to thank Prof. Vladimiro Valerio for providing me with a digital copy of both maps. For his comments on the novel nature and the amount of data expressed in the maps, I refer to the essays of Prof. Valerio, in particular: VALERIO, 2015, pp. 125-157.
3. See Archivio di Stato di Napoli (hereafter ASN), Dipendenza della Sommara, n. 187/2, c. 204.
4. In 1543 *de la Caya* received a drawing of the state of the building works and in May and June D'Amato went to Naples to report back on work progress and receive instructions: ASN, Dipendenza della Sommara, n. 196/6, c. 165 r; MUSSARI, 2009, pp. 764, 774, note 49.
5. In 1538, work begun under the charge of *Joan Antonio Buzacharino*: MARTORANO, 2002a, pp. 364, 386, 402 notes 67, 137. See also MAFRICI, 2002, pp. 343, 351 note 59, MUSSARI, 2002, pp. 422, 448 notes 111-114; MUSSARI, 2009, pp. 765-766.
6. ASN, Dipendenza della Sommara, n. 198/3, c. 295 r; MARTORANO, 2002a, pp. 364, 402 note 69.
7. He received a reasonable remuneration for these commissions 1000 ducats per year as a royal councillor and an annuity of 2000 gold ducats from 1521: SANTORO, 2008, in particular pp. 24-41, 85-86. See also SICILIA, 2009, pp. 252-253.
8. PELLICANO CASTAGNA, 1996, p. 63; SANTORO, 2008, pp. 87-89.
9. Ferrante Spinelli was described as a «valiant *condottiero*» in CANDIDA GONZAGA, 1876, III, s.v., who also dwelt on his military exploits: p. 195; PELLICANO CASTAGNA, 1984, pp. 388-389; *Id.*, 1996, p. 63.
10. They were also linked by family ties: Ferrante's son, Giovanbattista II, third Count of Cariati, married Isabella di Toledo, while Pietro di Toledo entered into marriage with Donna Vincenza, another daughter of Ferrante: PELLICANO CASTAGNA, 1984, p. 389; SANTORO, 2008, p. 104.
11. VALENTE, 1973, pp. 154-156.
12. PACICHELLI, 1703, p. 18 and fig. 18.
13. The tower «of S. Pietro» is located 2 km from the centre of Cariati. It has a square plan with scarp: FAGLIA, 1984, I, p. 122; 5 Km, the tower of Fiumenicà, which was already active in 1569 and entrusted to the Spanish tower builder Miguel Mendoza: LIGUORI, 1991, p. 41; CATALDO, 2014, p. 273.
14. In the ninth century, named *Insula* or *ton Aeisulon*, since the diocese adopted the Greek language and forms of worship, it was under Santa Severina. The name of *Turris Insule* appeared in the records for the first time in the second half of the 14th century (1483): MAONE, VENTURA, 1981, pp. 31-34, 92, 103.
15. After a short period as a state at the end of the 15th century, the town of Isola was sold for 2000 ducats to Troilo Ricca. In 1489, Ricca was engaged «have pensiero» in building work on Castel Capuano in Naples: MAONE, VENTURA, 1981, p. 114. For the feudal history of Isola during the period in question: VALENTE, 1939, pp. 89-104; PELLICANO CASTAGNA, 1996, pp. 357-358; MARTORANO, 2009, pp. 227-228.
16. For example, Isola provided straw baskets for carrying materials to the Crotone fortification works during the first half of the 16th century: MARTORANO, 2002a, p. 363.
17. MARTORANO, 2009, pp. 228-229. The pre-existing settlement was not defended, as stated in f. 413 of the 1564 trial between the Bishop Mons. Caracciolo and the Duke of Nocera: «(Original text) *Quando vi era nova de Turchi li preti et gente dell'Isula salvavano la gente et robbe in la terra delle Castelle perché nella città dell'Isula non ci era mura*» [When the Turks invaded, the priests and people of Isola took the people to safety inside the castle because there was no wall around the town of Isola]: PE-SAVENTO, 1994, p. 10. In 1517, it was plundered by Barbarossa: VALENTE, 1973, p. 103.
18. For an analysis of the gate and dating of church of the Annunciation: SCAMARDI, 2002, s.v., p. 883.
19. The plaque on the Terra gate states: INSULAM URBEM PIRATA./ INCURSU DIRUTAM JOANNES/ ANTONI RICHA NEAPOLITA/ N. MOENIA PROPUGNACOLIS ET/ ARCE P. PRIO AERE MUNIVIT IN/ PERPETUUM SUAE VIR- TUTIS/ MONUMENTUM ET POPULOR./ PRAESIDIUM - ANNO A VIRGI/ NEO PARTU - 1.5.4.9.: VALENTE, 1972, pp. 53-54. The second, in a monument to Giovan Antonio states: IO. ANTONIUS RICCA TROYLI A QUONDAM/ BEATRICIS CARACCHIOLE FILIUS. CIVITATIS/ INSULE BARO POST MULTAS TURCORUM/ INVASIONES, NE SUA CIVITAS FUNDITA/ DELETUR, HIC NOVA MOENIA ET PROPUGNACULA/ PROPRIO AERE HOC ANNO 1549 A FUNDAMENTIS EREXIT/ QUA QUIDEM BARONIS PERITIA, IN ANNO 1525, QUO/ TEMPORE GALLO- RUM FUROR HAS REGIONES ACCUPAVERAT/ PRAESIDIUM HAC PLAGA MARITIMA CONCREAVIT/ STRENUAE HOSTILES INSULTATIONES SEDAVIT, OPPIDUMQUE/ CASTELLORUM MARIS QUOD AB IMPERIALI/ DI- TIONE PERTINACITER DESCIVERAT, PROPRIO/ MANTE AD EAMDEM REVOCAVIT POST OR/ OMNIUM IN- TEGRITATE HUNC LAPIDEM AC SACRAS/ AEDES VIVENDO SIBI CONSTRUXIT: *Id.*, 1972, p. 56. The church of s. Marco, under the judicial patronage of the Baron, is the only one inside the fortified town and was built by his son Cesare under the terms of a legacy left by his father Giovanni Antonio.
20. MARTORANO, 2002a, p. 393; *Id.*, 2009, p. 228.
21. As evidenced by an inscription on the entrance gate: BRUNETTI, 1991-92, p. 60; *Id.*, 2006, pp. 154-171. For a study of Acaya's layout and construction stages, see also D'ERCOLE, 1999, pp. 22-25.
22. Galeotto and Andrea II Carrafa della Stadera (1535-1564) were responsible for the 16th century walls and imposing bastions that give the castles at S. Severina and Le Castella their distinctive appearance: LOPETRONE, 1995, pp. 37-44; *Id.*, 1998, pp. 80-88; MARTORANO, 2002a, p. 379.

23. The Spinellis purchased the fiefdom of Seminara for 4000 ducats. Before the feudal succession of the Spinellis (Napoles), bloodline of the Princes of Cariati: PELLICANO CASTAGNA, 1978, pp. 139-142, 209.
24. Galasso argues that Carlo Spinelli was part of the ruling class that awarded substantial legal and financial privileges to the great estates during the second half of the 16th century: see GALASSO, 1980, p. 285. He also had ties with the most important families of the time, for example his friendship with the Farnese family led him to inform Ottavio Farnese in 1564 of the marriage of his son Scipione to Francesca Spinelli, heiress to Castrovillari, Cariati and Paola. In 1564, he held the office of land governor of Otranto and Bari: SANTORO, 2008, pp. 109-110.
25. Both medals bear a profile of Spinelli on the front, while on the back, one bears the motto NONDUM IN AUGE, in a crown of pearls, a human face surrounded by rays in the middle of a circumference enclosing a smaller circle with a point in the centre; the other shows a citadel and bears the wording CARLOPOLIS FUNDATIO. Published in ARMAND, 1887, III, p. 257. The coin collector SICILIANO, 1970, pp. 3-10, published an image of the metal with the motto NONDUM IN AUGE, and pointed out the similarity between the profile of the Duke depicted on the medal and the head of the statue on the monument to Carlo Spinelli erected in Seminara. Siciliano believes that the artist who minted the coin was inspired by the marble bust of the monument in Seminara when he reproduced the Duke's profile on the medal.
26. The first detailed description of the monument is given in DE SALVO, 1899, pp. 89-92. Recently, DE MARCO, 2010, pp. 282-287, interpreted the four panels as an illustrative work on historical events relating to the feudal lord. In chronological order: Battle on the Petrace (1503), Carlo V's triumphant entrance to Seminara (1535), Battle during the war of Campagna di Roma (1556-1557) (fragment), Episode of war, (fragment). De Salvo, on the other hand, believes that they depict episodes of feudal life. In particular, he believes that the first panel fragment shows the Spaniards winning back Seminara in 1495 and the second shows the surrender of d'Aubigny (1503). De Salvo firstly associated the statue positioned on the base decorated with figurative panels with Carlo Spinelli, contesting the attribution proposed to that date, i.e. to Consalvo of Cordoba. With regard to its architect, NEGRI ARNOLDI, 1997, p. 186, attributes the monument to Andrea Calamech, due to the narrative style of the reliefs, which are reminiscent of similar scenes from the monument to Don Juan of Austria in Messina (1572), while VALTIERI, 2002, pp. 234-236, suggested a Neapolitan provenance. DE MARCO, 2010, p. 280 agreed that they could be attributed to the workshop of Calamech but stressed that the quality of workmanship was not up to the standard of Calamech's Messina work, suggesting it could be dated to a few years earlier.
27. The medal was tracked down by Domenico Ferraro, who was the first to publish a photograph of it: FERRARO, 1988, pp. 83-85. All we know of it is its catalogue entry, by Armand.
28. I have found no trace of a date on the image of the medal, but Armand added the date 1564 alongside the town in the catalogue. The catalogue entry is shown below. I believe the date suggested by Armand is feasible due to the reasons given in the text: F. Dia 35 «CAROLUS. SPINELLUS. DUX. SEMINARIAE.» – 1562 R / «CARLOPOLIS FUNDATIO – 1564». Au droit: Buste à droite de Carlo Spinelli, tête nue, barbu, cuirassé, avec petite fraise. «Au revers: vue cavalière d'une ville fortifiée».
29. Philip II used his privileges to grant Carlo II Spinelli the title of Duke of Seminara on 28 April 1559. The date of acquisition of the ducal title was given as 1557, ARMAND, 1887, p. 257, followed by SICILIANO, 1970, p. 5.
30. 17.01.1566. *Francisco de Vellis, clerico Romano, qui cessit simplici beneficio in parochiali ecclesia oppidi de Palma, Militen dioc., eidem, per ob. Francisci Ferri, de mense augusti praeteriti ex. Ro.Cu.def., collato et de quo providetur nunc Io. Antonio de La Casa, clerico eiusdem seu alterius dioc., reservatur pensio. Dat. ut s. «Rationi congruit».*
26.05.1567. *Die XXVI Maii 1567, d.nus paulus Tacconus, de terra Briatici, pbr Militen. dioc., cui nuper de parochiali ecclesia S. Nicolai de palmi, nunc carlopolis, Militen. dioc., vac. per ob. quondam Scipionis de Regio de terra Seminaria, aplca auctoritate provisum fuit, presens consensit assignationi pensionis annue 20 duc. monete regni neapolis super fructibus dicte parochialis D. Sebastiano de Leone, archipresbytero Militen, iuxta formam supplicationis desuper signate sub dat. Rome, apud S. petrum, XI cal. Maii, an. 2°:* RUSSO, 1978, IV, p. 391 n°21512., p. 417 n°21768.
31. BRAGARD, 1994, p. 148. Mariembourg is mentioned in Volume I, chapter XI *Risolution del sopradetto (Ragioni perché si debbano far più Terre forti che Rocche)* [Resolution of the aforementioned (Reasons why more strongholds should be built than fortresses)], of the Galeota Treatise as a newly built stronghold. On the Treatise *infra* note no 45; citation on p. 233.
32. Even though the work was small (450 x 325 m), building work continued until 1580: MORINI, 1957, pp. 327-330; MARCONI, *et al.*, 1978, p. 278. See also GUIDONI MARINO, 1983, pp. 93-96.
33. On Carlo V's journey: DE SALVO, 1899, pp. 138-140; BORRETTI, 1939; ZANGARI, 1940; VALENTE, 1973, pp. 122-133; ANTINORI, 2002, pp. 19-28.
34. The slab (l. 100 cm approx h. 0.95 cm approx) is carved in bas-relief and there is no inscription beneath: MARTORANO, 2009, pp. 233-234.
35. The tower above Seminara actually existed. It was damaged in the 1783 earthquake and defined as «diruta» [derelict] in the plan, F. 30, of *Atlante Geografico del Regno di Napoli* by Giovanni Antonio Rizzi Zannone, which was published in Naples between 1788 and 1822. It was identified as Torre Spinelli [Spinelli Tower] in the 1835 map signed by the engineer Benedetto Lopez Suarez, who drew up the plan in his capacity as expert commissioned to indicate the roads linking the centres of the district of Bagnara and Palmi and the associated distances: Archivio di Stato di Reggio Calabria, Inv. 5 Intendenza - Affari Comunali, b. 104, fasc. 5259, *Sull'aggregazione del comune di Melicuccà al novello circondario di Bagnara* [On connecting the municipality of Melicuccà to the new district of Bagnara]
36. The lists are mainly drawn up based on documentation of the viceregal provisions and projects implemented: CISTERNINO, 1978, pp. 89-143; FAGLIA, 1984. Lastly, CATALDO, 2014, pp. 192-290; MARTORANO, 2015, pp. 90-99; VALERIO, 2015, p. 158.
37. Archivio della Corona di Aragona, *Privilegi*, Volume 3, folios 154-163, document cited in SANTORO, 2008, p. 39.
38. The coastal fortification plan for Calabria *ultra* in the recently published Romano Carratelli Codex confirms the viceregal *modus operandi*: MAFRICI, 2015, pp. 43-66; MARTORANO, 2015, pp. 67-102.
39. Carlopoli was built over the pre-existing town of Palma. For a study of the urban history of Palmi until the early 20th century, see MARTORANO, 2002b, pp. 229-276.

40. On the military campaigns of Carlo Spinelli: RUSCELLI, 1584, pp. 110-114; CANDIDA GONZAGA, 1876, III, s.v., pp. 195-196; DE MARCO, 2010, p. 285.
41. Unfortunately, modern demolition work in 1921 destroyed the ramparts at the Chiesa del Soccorso, while the southern curtain wall was cut at the end of the 1990s to create a through route. The remains of two bastions can still be seen: at the base of the wall of the Villa Comunale at the corner between Via Rosselli and V Pizi, and in the Irrera Gordon, formerly the monastery allotment.
42. Silvestro Galeota bought the fiefdom for 3500 ducats, when Monasterace joined his other holdings of Casaterra and Bagliva near Aversa. The family died out with Eleonora Galeota (1590-post 1641), second Princess of Monasterace, who died without heirs. After its return to the royal treasury, it was donated in 1654 by Philip IV to Carlo della Gatta, a Neapolitan nobleman and renowned soldier in his day: CANDIDA GONZAGA, 1876, III, s.v., pp. 100-109; PELLICANO CASTAGNA, 1999, pp. 195-196.
43. For an analysis of the fortification and town in the context of contemporary fortifications in Calabria: MARTORANO, 2016, pp. 177-203.
44. His enforced stay in Calabria probably took place between 1552 and 1555, when he was arrested and taken to Rome. For his biography, see PASTORE, 1988, pp. 420-423.
45. It is conserved in two manuscript copies at the Biblioteca Nazionale di Napoli. Codex XII D 14, handwritten, the final part of which is damaged, and XII D 21. There is no exact correspondence between the pages with regard to the identity of the text. It is generally dated between 1546-1560, HERNANDO SÁNCHEZ, 1994, p. 410 narrowed the dates down to 1555 and 1557. The existence of the Galeota codex was reported by VOLPICELLA, 1877, pp. 135-194. See also DI RESTA, 1988, pp. 54-60, MARTORANO, 2002a, pp. 388-389. Transcription of a handwritten copy XII D 14 of the Galeota Treatise, preceded by a comment with the reproduction of some of the diagrams contained in the work, in BRUNETTI, 2006, pp. 75-93, 229-294.
46. Codex XII D 14, chapter XIII: *Decisione del dubio delle Fortezze naturali et artificiali* [Choice between natural and artificial fortresses]: «(Original text)... *hora vedendo un balzo o rupe accostare alla cima di quelle il muro, perché tutta la Rupe gli serve per muro naturale, il che suole servire spesso ad allargare la piazza, et mancar di guardia quando vien così fatto come io già feci a Catanzaro ...*» [or if you notice that a slope or a cliff is near the top of the walls, the whole cliff can serve as a natural wall and you can widen the area and avoid posting guards when it is arranged in this way, as I did in Catanzaro ...]. MARTORANO, 2002a, pp. 356, 388-389; BRUNETTI, 2006, p. 253.
47. Transcription in BRUNETTI, 2006, pp. 252-256.
48. *Perché si tratti questa materia così comune per via di scientia et di methodo*, Ivi [Why this common subject should be addressed using science and method, *ibid.*], p. 255.
49. *Che condizione debba havere il disegno della Fortezza* [what must be the condition of the fortress design]: «(Original text) *Avendosi da far la Machina o edificio, per esempio quadrangolo chiaro è che la linea ha la quale fa gomito con la linea al in a giamai vederà l'un l'altra perché l'una si nasconde dall'altra, però è stato necessario questo rimedio che prima che la linea dia la volta in a per nascondersi si spezzi e si seghi a traverso con un'altra linea sporta in fora, come è df che la seghi a traverso con un'altra linea sporta in fora, come è df che la seghi a traverso in d. Et perché è necessario di chiudere il recinto....*» [For example, if you have to design the structure of a building with a square plan, it is obvious that the line forming an elbow and the line at point a will be concealed from one other and will never be mutually visible. A solution had to be found, namely that before the line turns inward and becomes hidden, it is broken by another line that runs to the outside and another line to the outside that breaks at point d. ... This is why the walls must be closed]. «(Original text) *Questa giunta di quattro linee spezzate che nascono in quel modo ne i gomiti o angoli precurrenti è stata chiamata Belguardo credo o passivamente perché tutto esso è ben guardato, o attivamente perché guarda il tutto bene, oltre che dallo Angolo li ha bellissima vista, e riguarda tutti e due i lati. Ecco come la difesa nasce dall'intersecazione delle linee perché l'una veda l'altra e nulla ne resti nascosta, et si sape anchora con che ragione sia formato il belvedere, et che cosa sia ...*» [This union of four broken lines that start from the pre-existing corners has been called a Belguardo I believe this is a passive description because it is clearly visible and also an active one because it gives a good view of everything, from the corner you get a fine view that sweeps along both sides. The defensive function arises from the intersection of the lines, meaning that one sees the other and no part remains hidden. So you can understand why the Belvedere exists and what it is...]: *Ibid.*, p. 254.
50. *How the design should be*: «*Et acciò che ogni cortina venga guardata per traverso et gli angoli non coprano il nemico, in ciascun angolo si disegni un belguardo che pigli et abbracci i due lati della figura che fanno l'angolo. Et belguardi chiamo quelle figure angolari sporte in fora ne cantonali della Fortezza ...*» [To make sure that each curtain wall is viewed from the side and the corners do not obstruct the view of the enemy, a belguardo is created in each corner that covers the two sides of the figure forming the corner. I call the angular form extending outward from the corners of the fortress a *belguardi*] *Ibid.*, p. 255, where the drawing present in the Treatise is not shown alongside the text.
51. *If the Fortress should be configured with many or few corners*: *Ibid.*, p. 256. This type of plan nevertheless appears to be the most widely adopted in Calabria from the mid-16th century judging from the surviving ruins.
52. The plan was published for the first time in in DI RESTA, 1988, p. 55 fig.1, but without any reference to the written text. It is included in the section *De Fossi*, p. 66 v Codex XII D 14 = p. 73 v of Codex XII D 21 (the markings are modern).
53. On the proportion of one in relation to the other: «(Original text) *Et anchor che per mostrar di tirar le linee dritte, et per poter darci la Simmetria tra loro; non solo io m'habbia immaginato ma disegnato la figura quadrangolare compita ne i suoi cantoni e lasciargli dentro i Belguardi et finito tutto il recinto del quadro pur advertiscasi che si è fatto perché con più facilità si possano sopra quelli formare et commensurare i Belguardi; ma non già perché mi piacciono di lasciarceli come molti fanno nella fabbrica; perché oltre di esser cosa soverchia restringono anchora la piazza del belvedere, né gli fanno avere forma bona. Ma ben mi piace et aggrada che i muri di fianchi si allunghino verso dentro Et di più stendendosi a quel modo verso dentro, dona adito che da i corridori che sono da dietro i muri vi si possa entrare per dritto et condurci l'artiglieria senza dar volta, che è grandissima comodità*» [and also to show how to draw straight lines and ensure they are symmetrical, I not only imagined, but drew a square

plan with corners and left them inside the belvedere, finishing off the entire enclosure of the square. I did it so that I could shape and fit the belvederes with greater ease; not because I like to leave them as many build them, i.e. as a redundant structure that further reduces the belvedere area and means they are not well-shaped. I prefer the side walls to extend inwards when they extend inwards, you can also be certain of entering from the corridors behind the walls standing upright and carrying artillery without having to bend, which is extremely useful: p. 58 *r* of XII D 14 = p. 65 *v* of Codex XII D 21 (the markings are modern).

54. BRUNETTI, 2006, chapter XIII p. 233; chapter XV p. 234, *Decisione del dubbio delle Fortezze naturali et artificiali* p. 253.
55. *Ibid.*, chapter VII p. 231.
56. The drawing up of the inventory was not linked to the feudal succession but to a need to establish the assets present in the castle. All this came about following a court case involving the town's governor, who resided in the castle and escaped, leaving it unattended: NAYMO, 2016, pp. 115-116.
57. The castle in Monasterace was completely rebuilt. Traces of pre-existing structures appeared during the restoration work in progress. I would like to thank the architect Vincenzo de Nittis, works manager, for information, pending publication of the relief drawings and stratigraphy for more detailed comments.
58. Castles with towers present in Rossano, Tropea and S. Marco Argentano, the latter is the only surviving example: MARTORANO, 2016, pp. 191-192.
59. MARTORANO, 2015, pp. 87-88.
60. PELLICANO CASTAGNA, 1999, pp. 195-196; MARTORANO, 2016, p. 203.

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Artistic accomplishments and human misfortune in the case of Giovan Battista Bertani, Prefect of Building Works for the Duchy of Mantua

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Giulio Romano died in Mantua on 1 November 1546. He was in charge of all the city's artistic works, both pictorial and architectural, from 1524, the date he arrived in Virgil's city from Rome. His duties included the role of Prefect of Building Works, a position he held until his death. His most illustrious commission was Palazzo del Te, just outside Mantua¹.

From 1540, the year when his protector Federico Gonzaga Duke of Mantua died, the great Mannerist artist continued to work in Mantua for Cardinal Ercole Gonzaga, brother of the late Duke, who continued to use the services of Giulio Romano, particularly for architectural works². Because his nephew Francesco, Federico's firstborn son, was still under-age, Cardinal Gonzaga assumed the regency of the State together with his brother Ferrante, Viceroy of Spanish Sicily and Governor of the State of Milan from 1546³, and the widowed Duchess Margherita Paleologo⁴. However, the main affairs of state and the city were managed by the Cardinal, including appointing new prefects for the ducal building works following the death of Giulio Romano in 1546. Various architects succeeded one another in the post from 1546 to 1549. These included the Tuscan Battista Covo, who was hired immediately after Giulio Romano's death, only to die as well a few days later, and Gerolamo Genga from Urbino, although none of them left any noteworthy traces.

On 14 May 1549, the Cardinal appointed⁵ Giovan Battista Bertani as Prefect of the ducal building works. He was a 33-year-old architect, born in Mantua in approximately 1516. He started working on his own account as an artist in the workshop of Giulio Romano in the early 1530s, making some decorative devices for the palaces. There is some documentary evidence of him in Mantua dating back to 1531, but little is heard of him afterwards apart from what he reported in his own memoirs. These stated that he trav-

elled to Rome twice during the pontificate of Paul III, mainly to practice and study architecture. Other names that are now well known to us today went to Rome at the same time for the same reason: Vignola, Vasari, Leone Leoni and Palladio. Later on, Bertani loved describing his fascinating walks in Rome in search of little known remains of the classical world and his visits to patrician houses where he saw valuable antique collections. However, he did not report having produced any significant works during those years in Rome or anywhere else, including Mantua⁶.

Bertani's early history hardly goes any way to explaining the important position he was given in May 1549 at the court of Mantua under Cardinal Ercole Gonzaga. The explanation for the trust that the powerful cardinal placed in Bertani must therefore be sought in another duty that he carried out alongside his job as an architect.

A few months earlier, in January of 1549, the son of Emperor Charles V, Prince Philip, future King of Spain was expected in Mantua on his way to Flanders. To mark that great event, the city and court had to be decorated with spectacular set pieces that could rival the majestic works staged a few weeks earlier in Milan, where the Prince had stayed with the governor Ferrante Gonzaga, brother of Cardinal Ercole⁷.

The person commissioned to carry out these important representative works was Giovan Battista Bertani, whom the Cardinal had probably had occasion to appreciate and become acquainted with during his years as a Cardinal in the Roman Curia, since they were both from Mantua. We also know that in 1546, shortly after the death of Giulio Romano, Bertani was engaged in building work for the refurbishment of Mantua Cathedral. The Cardinal had commissioned Giulio Romano to do this work, but it had been suspended due to the artist's death. The project, which was very dear to the Cardinal's heart as he held the episcopal chair, also gave him another opportunity to see the Mantuan artist at work.

It seems that Cardinal Ercole was so pleased with Bertani's work on the temporary stage sets for the visit to Mantua by the future Philip II that his already high esteem was elevated to an authentic feeling of favour toward the artist. He therefore immediately appointed him director of works on Mantua Cathedral, where he was already working. A record of Bertani's successes to mark the occasion of Philip II's visit to Mantua, particularly his sequence of triumphal arches, can be found in a report by the Spaniard Alfonso de Ulloa, who was also fascinated by the «marvellous architecture», as he described it in his work *Vita dell'Invittissimo e Sacratissimo Imperator Carlo V*:

«The people waited in wonderment in the countryside and at Porta della Perdella, the gate through which the Prince entered. Here there was a triumphal arch with marvellous architecture dedicated to him. You could see an armed statue showing a likeness of the Prince in bronze [...], Beyond this, at the Church of St Jacob, there was another old-fashioned arch dedicated to Caesar and Philip [...]. There were also many other arches, but it would take me too long to try and describe them all. I only wanted to mention those two, to give an idea of the grandeur and pomp with which the Duke received the Prince in Mantua. In the Palace, which was the Castle where the Prince was to stay, there was also another arch [...] The left side of this arch bore a bronze frame depicting a likeness of the Emperor handing the ducal crown to the house of Gonzaga with imperial majesty [...] This arch was 44

feet high. Two large and beautifully made statues decorated the corners of this arch. One represented the first Marquis of Mantua and the other represented the first Duke. The Prince was received in Mantua with these devices and further pomp that I will not mention here»⁸.

In May of the same year, the Cardinal made Bertani Prefect of ducal building works and the artist held the same position for 27 years until his death. In the same year, 1549, Bertani was called upon to supervise the interior decoration of Ercole Gonzaga's winter residence in the bishopric of Mantua.

We know that the relationship with the Cardinal went beyond that of a normal patron-client relationship. As we will see, this great bond of respect and favour between Ercole Gonzaga and the architect was not without consequences, some of which were tragic. These came about because during these events, Bertani was considered an intimate part of the Cardinal's close cultural, political and above all religious sphere. He was considered to be his «creature» or to use the term used in the title of this seminar «*hechura del cardenal*» [the Cardinal's making].

Bertani was a great admirer and scholar of Vitruvius and in 1558 he had a treatise published in Mantua by the printer Venturino Ruffinelli. This was entitled «On the obscure and difficult passages of Vitruvius' Ionic work in the Latin vernacular, translated into clear, intelligible text, with illustrative figures». This was dedicated to Cardinal Ercole, who remained his protector even though in the meantime (in 1556) Guglielmo Gonzaga had come of age. Guglielmo was Ercole's second nephew and the new Duke of Mantua, succeeding his elder brother Francesco, who died prematurely in 1550. The artist poured all the culture he had acquired throughout his years in Rome into his treatise on Vitruvius, which was illuminated by subsequent conversations in Mantua with the erudite Cardinal Ercole. In his work, Bertani credited the Cardinal with explaining the exact interpretation of some of the passages of Vitruvius' ancient text. Bertani wrote:

«[...] having taken a great ladder and climbed to another level, I discovered, among other things, a capital with abacus slabs. These were square as described by Vitruvius and the volute eyes were flat. There were four dots in the four quarters of the eye. At the time I did not understand the purpose of these dots but then the very illustrious and observant monsignor Cardinal, my patron as I explained earlier, explained to me many obscure passages of the volute on an ionic capital, as described by Vitruvius, with great clarity. I then became aware that the dots were intended to guide the turns of the volute as shown in the lower figure [...]»⁹.

After the Cardinal handed over the reins of power in 1556 to his young nephew, Duke Guglielmo¹⁰, the latter confirmed Bertani's position and gave him new assignments, including full conversion of the ducal buildings, which until then consisted of a series of unrelated buildings dating from different periods [FIG. 1]¹¹. Bertani's main task was to add new buildings. The Duke wanted an imposing central Palatine basilica where he could pray and also compose and listen to music. The Duke was a talented musician and wanted

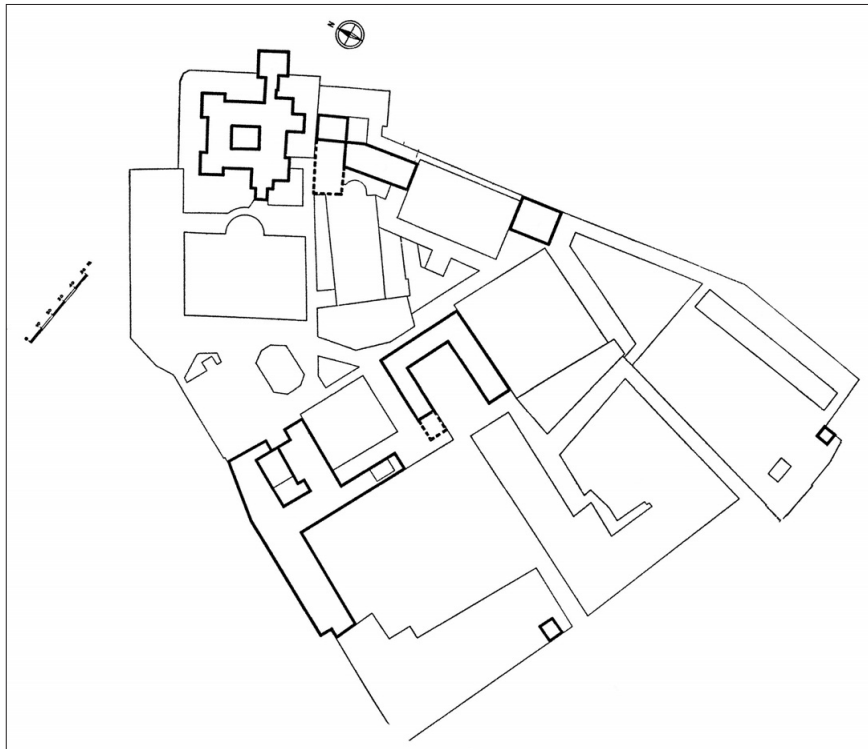


FIG. 1 Palaces of the Gonzaga Court. In relief, situation at the death of Giulio Romano (1546); the present-day situation is shown in fine lines. From MARANI, 1965, p. 7.

a kind of Mantuan version of the Escorial. This can still be seen in the form of the Basilica di Santa Barbara in the Ducal Palace of Mantua.

Beginning with the regency of Cardinal Ercole and especially from the time (1556) when power essentially passed into the hands of Guglielmo, a series of reforms was implemented in Mantua that radically changed the institutional order and the political and economic status of the Gonzaga principality. When transferred from the abstract sphere of politics to the specific sphere of architecture, those reforms almost exclusively targeted the Ducal Palace: the intention was that it should meet the complex requirements of the new system of state and provide a prestigious and functional place to celebrate all the rituals of the court. It was intended to stand as a commanding image of the Prince's absolute power.

Work on the Ducal Palace began in the late 1540s and 1550s and gathered pace. While Cardinal Ercole and then his nephew Guglielmo sponsored the work, Bertani was their indisputable designer and executor. Everything stopped suddenly in December 1567, however, when Bertani, was arrested by the Inquisition while engaged in work on the Palatine Basilica di Santa Barbara. He was accused of heresy as part of a broader scheme to stamp out alleged heretical movements in Mantua. This effectively put a sudden stop to the ambitious building programmes reflecting Guglielmo's plans for an absolute state¹².

The Roman power offensive unleashed during the period against Mantua has been attributed to the conflict that arose between the young Duke Guglielmo and the new Pope Pius V appointed at the beginning of 1566. The Pope did not wish to renew the benefit of ecclesiastical patronage granted by previous pontiffs to the Diocese of Mantua. This had meant that the Dukes of Mantua were free to appoint whoever they chose to

be Bishop of the city and for more than one hundred years the Bishop had always been a family member¹³. Duke Guglielmo's authoritarian nature also helped to accentuate the clash. However, the reasons for the inquisitorial attack launched by the Pope against the Mantuan political hierarchy were mainly connected to the roles of Ferrante Gonzaga and Cardinal Ercole, Guglielmo's uncles and past regents of his state.

The Cardinal died in 1563 in Trento while he was presiding over the Council of Trento. Two years later, in December 1565, Pope Pius IV, who had appointed him President, also died. Pius IV had risen to the papal throne in the 1559 conclave mainly due to votes placed by the followers of Ercole Gonzaga. On 6 January 1566, Michele Ghislieri was appointed Pope in the conclave following the death of Pius IV and took the name of Pius V. The new Pope had been known in the past for his harsh inquisitorial activities in Milan during the 1540s during the governorship of Ferrante Gonzaga, Ercole's brother. In his capacity as Inquisitor, the Dominican Ghislieri had become involved in a serious dispute with the then Governor, who did not wish to take his side in an inquisitorial case that the future pontiff considered to be very serious:¹⁴ Ghislieri vowed that he would make Ferrante Gonzaga or someone else in his family pay. Ferrante Gonzaga died in 1557 and Ercole died in 1563. The Inquisition had had Ercole in its sights for some time already due to his suspected tolerance towards Reformist ideas. In the past he had been in contact with representatives of the Reformation. He had corresponded with Vittoria Colonna and been in contact with Juan de Valdés. He had discussed religious issues with Pier Paolo Vergerio, who stayed in Mantua. He was interested in Cardinal Contarini's effort to obtain a reconciliation with the Protestants. He tried to protect Bernardino Ochino and tolerated his preaching in Mantua. It was known that his library, supervised by his secretary Endimio Calandra, housed the works of the main reformers. As Rebecchini rightly states, in the first half of the century, the Lutheran heresy had a large following in the Gonzaga court and «it is evident that the city of the Gonzagas had become a centre of attraction for free thinkers and those developing a conciliatory attitude toward the reform movement, aided by the substantial indifference of Duke Frederick and the tacit protection of Ercole and the Duchess f Margherita Paleologo»¹⁵. All this meant that the city of Mantua was considered to be at high risk of heresy. It was not, however, targeted by the Inquisition as long as the cardinal and the Pope who had been elected with the aid of the Gonzaga family's votes, Pius IV, remained alive. Things changed with the election of Pope Pius V Ghislieri in 1566. Early the following year, the Pope transferred the previous Grand Inquisitor of Mantua, who was considered too lenient towards Duke Guglielmo, and shortly after sent in the tougher Camillo Campeggi, known for his hard-line attitude to any formal suspicion of heresy. Campeggi immediately imprisoned his main suspects, whom the trial proceedings reveal as having all been previously in the service of Cardinal Ercole Gonzaga.

When he received news of the first arrests of his servants, Guglielmo Gonzaga aired his grievances by launching a diplomatic attack against the Roman Curia and the pontiff himself, whom Guglielmo accused of not having informed him of the imminent arrests and above all of not having asked for the necessary authorisation, thus undermining his ducal authority. The dispute went on for months until Cardinal Carlo Borromeo was sent especially to Mantua to restore order and try to persuade the Duke to soften his stance,

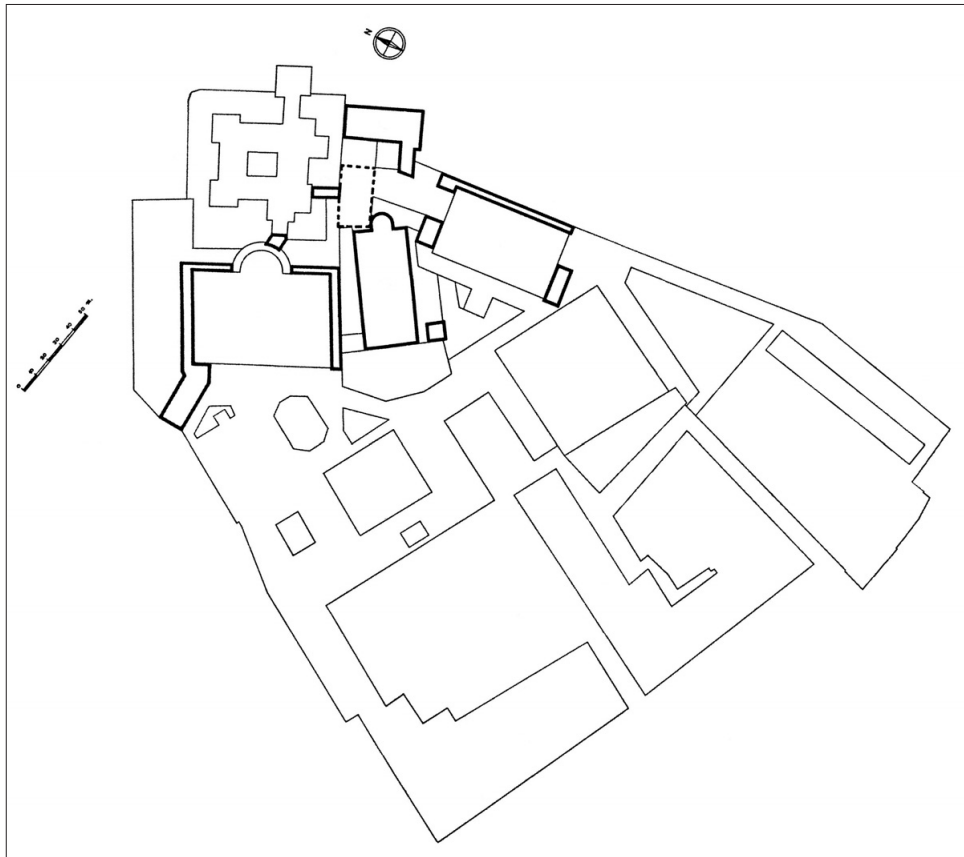


FIG. 2
Palaces of the
Gonzaga Court.
In relief, build-
ings designed
and built by
Giovan Battista
Bertani
(1549-1576);
the present-day
situation is
shown in fine
lines. From
MARANI, 1965,
p. 27.

but he failed to persuade Guglielmo to desist from his opposition to the Inquisitor Campeggi. The Gonzaga's continual pleas for clemency in favour of the two main accused, who were also his closest collaborators, the Prefect of his building works Bertani and his secretary Endimio Calandra, formerly Ercole Gonzaga's librarian, fell on deaf ears¹⁶.

Bertani's arrest in December 1567 halted all the ambitious building programmes in progress to reflect Duke Guglielmo's plan for an absolute state. Worse still, August also saw the arrest of his two most important collaborators or «*soprastanti*» [supervisors] as they were described. Cesare and Pompeo Pedemonte were members of a family with a long tradition of ducal architectural commissions. Cesare was only a mediocre architect, but Pompeo is now acknowledged to be equal or even greater in talent than Bertani. However, he never won noble favour, partly due to his notorious bad character, which led to much enmity at court and among his colleagues¹⁷.

Between April and May 1568, all those arrested, including Bertani, had to make public recantation and wear the habit of penance. Duke Guglielmo had battled with Cardinal Carlo Borromeo to spare his architect this public humiliation because Bertani's health was so bad that he had to undergo interrogation while lying in bed. Despite the Duke's efforts on his behalf, on 16 May 1568, Bertani also publicly recanted and was able to return to the interrupted building work on the Basilica di Santa Barbara. However, by now his body and spirit were broken, as evidenced by the shaky signatures on subsequent building documents kept in the historical archive of the Diocese of Mantua¹⁸.



FIG. 3 Aerial view of the Court of the Gonzagas.

The bitter quarrel between Duke Guglielmo, the Pope and the Inquisition only subsided when, in September 1568, the Inquisitor Campeggi was promoted in recognition of his great achievements and replaced by the more malleable Mantuan friar Benedetto Erba.

Giovan Battista Bertani died eight years later in the spring of 1576 having completed almost all the work entrusted to him, firstly by Cardinal Ercole Gonzaga and then by his nephew Duke Guglielmo, with the aim of creating a city within the city: this is what he achieved and what the Ducal Palace of Mantua still represents today [FIGS. 2 and 3].

As far as the trial is concerned, beyond the admissions made during the gruelling interrogations, we do not know how much truth lay in the accusations of heresy levelled against Bertani. Some clue emerges from the inventory of goods and artworks kept in his home even after his death. Rebecchini analysed these from the viewpoint of the alleged heresy with great perceptiveness:

«The presence of two paintings depicting the crucifixion in a room and dressing room on the first floor of Bertani's residence is worthy of close scrutiny in the light of the inquisitorial problems [experienced by Bertani]. This iconography, combined with the overall absence of any other kind of devotional image, cannot be completely lacking in significance,

particularly when one considers that images of the Madonna and Child appear constantly in contemporary inventories in line with the most common devotional practices. Although it is not possible to draw accurate conclusions about Bertani's most intimate religious convictions based on a quantitative and iconographic finding, it is nevertheless plausible to assume that his faith, even after his conviction, remained essentially Christocentric, in accordance with the teachings of the evangelical religious movements he observed in his youth. This quintessentially private choice therefore seems to reveal that, at least with regard to imagery, he had not adjusted to post-Tridentine religious canons»¹⁹.

Despite these perceptive insights, there is nevertheless a suspicion, reflected in the title of the Madrid seminar, that he and the others investigated by the Inquisition were scapegoats who paid for Duke Guglielmo's hostility to the Inquisition's forays into his territories and, to an even greater extent, Cardinal Ercole Gonzaga's actively suspected tolerance for heresy in the Mantua area (Gonzaga being Bertani's protector and inspiration in religious and other matters). In other words, because it was not possible to attack those who held the reins of local power, the next best thing was to attack their «creatures».

NOTES

1. The literature on Giulio Romano is very extensive. For publications to 1999 concerning the Mantua area and Gonzaga family commissions, see TAMALIO, 1999, and a subsequent on-line update by the same author (2014) at the following address http://catalogo.reggedeigonzaga.it/it/opac/simple_search. One of the most comprehensive and recent contributions on the artist is BAZZOTTI, 2014, proceedings of the Convention on *Giulio Romano e l'arte del Cinquecento* [Giulio Romano and 16th century art], held in Mantua on 28, 29, 30 and 31 May 2009, a fitting 20 year follow-up to the two publications that were issued to mark the great exhibition on Giulio Romano held in Mantua in 1989: GIULIO ROMANO, 1989 and 1991.
2. There is still no full biography of Cardinal Ercole Gonzaga; a biographical outline can be found in BRUNELLI, 2001a; MURPHY, 2007 is a monographic work, with an extensive bibliography. See also the description of Cardinal Gonzaga by BRUNELLI, 2004, pp. 79-102.
3. For Ferrate Gonzaga, in addition to the studies mentioned in the index to TAMALIO, 1999, see also BRUNELLI, 2001b; ZAGGIA, 2003; BARBIERI and OLIVATO, 2007; SOLDINI, 2007; SPAGNOLETTI and BARTOLI, 2008; SIGNOROTTO, 2009.
4. For the Duchess Margherita Paleologo, see TAMALIO, 2008; MAESTRI, 2013.
5. His date of birth is taken from the registry of deaths in the Mantua State Archive, Gonzaga Archive, death registry No 12, where his death at the age of 60 was recorded on 2 April: «*Nobile messer Giovan Battista Bertani in contrada nave, morto di febre, infermo giorni 10, d'anni n. 60*» [the nobleman, Giovan Battista Bertani, died of fever in the neighbourhood of Nave after a 10 day illness, aged 60].
6. Giovan Battista Bertani has often been underestimated in the past; we owe his definitive reappraisal to MARANI, 1965, which was followed by a series of increasingly perceptive studies. See PERINA, 1967; CARPEGGIANI, 1992, with an extensive bibliography; TORDELLA, 1998; REBECCHINI, 2000; BERZAGHI, 2011; L'OCCASO, 2012; TOGLIANI, 2017.
7. See CALVETE DE ESTRELLA, 1552 on the journey taken by Prince Philip of Spain to Flanders, where he was awaited by his father Charles V, and hence also the festivities in Milan.
8. ULLOA, 1566, 256r.; Prince Philip's entrance to Mantua was depicted in one of the large canvases in the cycle «*Fasti Gonzagheschi*» [splendours of Gonzaga], commissioned some years later by Duke Guglielmo Gonzaga from Tintoretto, in Munich, Alte Pinakothek, see SYRE, 2000.
9. An inventory of the books of Ercole Gonzaga, drawn up after the death of the Cardinal included «*Architectura Domini Joannis Baptistae Bertani manuscripta*», see REBECCHINI, 2000, p. 73.
10. On the subject of Guglielmo Gonzaga, see TAMALIO and BESUTTI, 2004.
11. In the words of Rebecchini, «Compared to the mid-1520s, however, when Giulio (newly arrived in Rome) found Federico Gonzaga to be a customer open to new stylistic solutions and desirous of undertaking vast architectural and decorative projects, Bertani's working situation changed radically midway through the century. Pressured by the huge debts left by Duke Federico upon his death in 1540 and a period of overall stagnation in the city's finances, Cardinal Ercole Gonzaga and Duchess Margherita Paleologo, who were state regents at the time, had embarked on a decisive cost-cutting policy that drastically limited the extraordinary building boom of the first half of the century [...] During the more flourishing reign of Guglielmo Gonzaga (1558-87), he was engaged to design and build some of the most ambitious architectural products undertaken in Mantua, including refurbishment of Guglielmo's apartments in the Ducal Palace and particularly the reconstruction of the Palatine Basilica of Barbara with its eclectic bell tower», REBECCHINI, 2000, p. 69.
12. On all these points, see CARPEGGIANI, 1992, p. 36.
13. On the ecclesiastical patronage of the bishopric of Mantua, see QUAZZA, 1949. No fewer than six Gonzagas succeeded one another in the Episcopal Church of Mantua without interruption from 1466 to 1566: Cardinal Francesco (1466-1483), Bishop Elect Ludovico (1483-1511), Cardinal Sigismondo (1511-1521), Cardinal Ercole (1521-1563), Cardinal Federico (1563-1565) and Cardinal Francesco (1565-1566).
14. The episode was reported by Cardinal Scipione Gonzaga in his autobiography: GONZAGA, 1987, p. 53.
15. REBECCHINI, 2000, p. 69.
16. For events related to the Inquisition in Mantua in 1567-68, the masterly study by PAGANO, 1991 is still the best work of reference. The complex phenomenon of the Inquisition and the Mantuan heresies was also covered previously by DAVARI, 1879, and BERTAZZI NIZZOLA, 1956.
17. For the Pedemontes, see CARPEGGIANI, 2002 and L'OCCASO, 2015. Those arrested included Giovan Battista Scultori (detained in Rome), the painter Giulio Rubone, the Goldsmith Ettore Donati and the well-known antiquarian Jacopo Strada, who was subsequently sentenced in absentia.
18. TOGLIANI, 2017, p. 31.
19. REBECCHINI, 2000, p. 71.

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The courtier engineer: success in the reign of Philip III

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«[...] after that he decided to have ditches dug and move forward although because he entrusted the endeavour to an Italian named Juan María, a man with scant intelligence and less experience, it took longer than it should have and as a result it was entrusted to men better suited to the task, now known as engineers»¹

That phrase, written in 1535, brings us back to a time when engineering as a profession began to be defined in connection with warfare and associated with a demand for both knowledge and experience. Throughout the sixteenth and seventeenth centuries some of these field engineers, who travelled constantly to describe and transform cities and lands at war and on the frontier, looked to the court for the status and personal safety afforded them by proximity to power. One outcome of that process may have been the ascendancy of science over experience. Tiburzio Spannocchi, courtier engineer *par excellence* (who was nonetheless routinely worked on fortifications in the field), alerted to that situation in 1605, when he wrote that «engineering has normally lacked skilled professionals, based as it is more on experience than on the study of books, and as the former is not attained except at the risk of their lives and most ultimately have to resort to begging, it is unsurprising that few here practise the profession»². Some were discouraged by the demand for war experience, which Spannocchi had acquired³, while others simply realised that their science would be more handsomely rewarded at court. This chapter reviews a few cases during the reign of Philip III when the *Pax Hispanica* lifted some of the pressure off the crown's frontiers, enabling the Duke of Lerma and other aristocrats to commission the designs for their palaces and gardens from military engineers, regarded as ideal architects. Power peddling based on the notion of «being the making of» (the Duke of Lerma's «makings» underlie so many appointments that

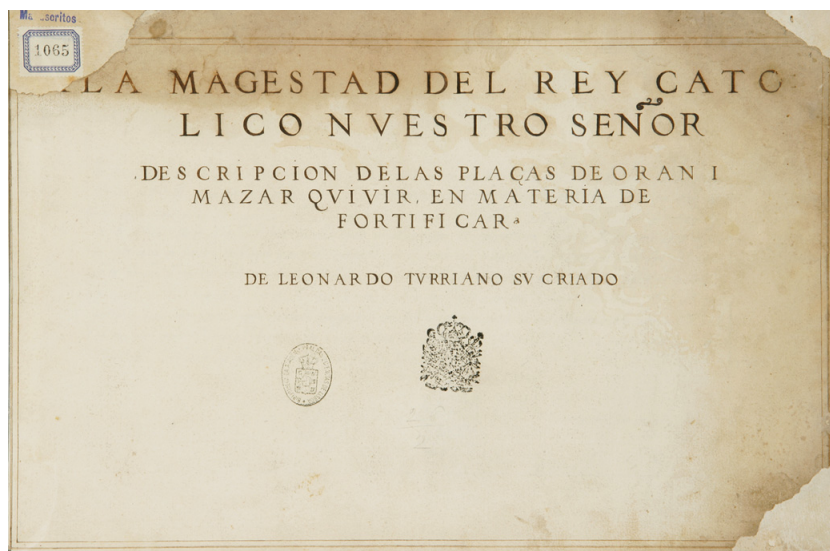


FIG. 1 LEONARDO TURRIANO, *Descripción de las Plaças de Oran i Mazalquivir en materia de fortificar* (cover), 1598. Lisbon, Academia das Ciencias de Lisboa. Ms. Azul, No. 1065.

any attempt at listing them would be futile⁴) also affected the relationships between engineers and the courtier nobility.

During Philip III's reign the crown continued to fortify its frontiers, however, as engineering as a profession began to take shape⁵. Its practitioners were bound to maintain secrecy and in 1602 a law prohibiting the publication of castle and fortification designs was extended to cover cities, villas and sites⁶. As that did not prevent Spannocchi from attempting to publish his designs in Italy⁷ in that same timeframe, however, blatant one-way assertions in that respect may need to be revisited. In another vein, Philip III inherited and fostered the practice of compiling bound manuscripts describing the kingdom's stone-walled frontiers. Spannocchi dedicated his description of Sicily and Turriano his of Oran and Mazalquivir to Philip while he was still crown prince [FIG. 1]. In 1601 a proposal was put forward to entrust Bautista Antonelli with «a description of all the harbours and forts in the Indies especially»⁸ and in 1602 the king ordered Spannocchi to commit all the designs for fortifications to books and make any necessary copies. None of that was to go into print, however.

FORTIFICATION AND THE REPRESENTATION OF POWER

As far as is presently known, a good deal of attention was paid during Philip III's reign to both fortifications and the science and technology of engineering needed to support the crown's military power. Even in times of peace, however, illustrations of its victories were used to magnify the reign's place in history. By way of example, the festivities organised by the Duke of Lerma at Denia prior to Philip III's wedding in Valencia and the arrival of the queen included a play representing the monarch's military power and the two major fronts where it was threatened: the Netherlands and the Mediterranean, artfully combined in a single scenario. The temporary structure the at the time Marquis of Denia had built for the occasion, a replica of Antwerp citadel, was overrun by Moors: «in the evening a battle was fought at a castle they had built intentionally in the marina

modelled on the one at Antwerp, with around 200 men in its ditch, disguised as Moors. It was attacked by ten thousand eight hundred infantry troops with trenches, artillery... and the king watched it all from the castle»⁹. From a twenty-first century perspective, the image of Antwerp citadel in The Netherlands defended by «Moors» and attacked by the Spanish infantry may appear to be at least extravagant, but it was certainly an apt depiction of how the crown could defeat all its enemies, even if the «Moors» conquered such an emblematic symbol of imperial power as Antwerp citadel, built by the Duke of Alba. The play was the prelude to a richly feted wedding ceremony that included a mock attack by corsairs, a parody quickly exposed so as not to overly frighten the ladies¹⁰.

Perhaps dazzled by the splendour of science in Philip II's court and swayed by the corruption during Philip III's reign and the *Pax Hispanica*, the studies of the latter have focused less on war science and engineering. Rather, they tend to view the estimable treatises, the academies and engineers' travels as independent episodes or specific but significant events relating to the use of images generated on the frontier, such as the taking of Larache and La Mamora to celebrate Philip III's triumphal entry into Lisbon in 1619.

In his chronicle of Philip III's journey to Lisbon, Juan Bautista Lavanha included engravings of the arches of triumph under which the entourage paraded, the Italians' among them [FIG. 2]. That monument depicted the ousting of the Christianised Moors and their landing at Africa overlaid on images of Larache and La Mamora. Underneath were allegories referring to the king's virtues: Hercules defeating the three-headed dog Cerberus and Apollo, the sun, wielding bow and arrow to slay darkness, personified by the serpent Python, symbolising the eradication of darkness from the reign of Portugal with the king's visit¹¹. The monarch's historic conquests were thus introduced in a context of mythological legend. The ousting of the Christianised Moors, for instance, or the taking of Larache and La Mamora, were depicted in drawings known to have been made on the occasion of those events¹² of which they were intended to constitute a plausible, albeit somewhat altered, portrayal. In that instance, then, the pictures were transposed from the king's

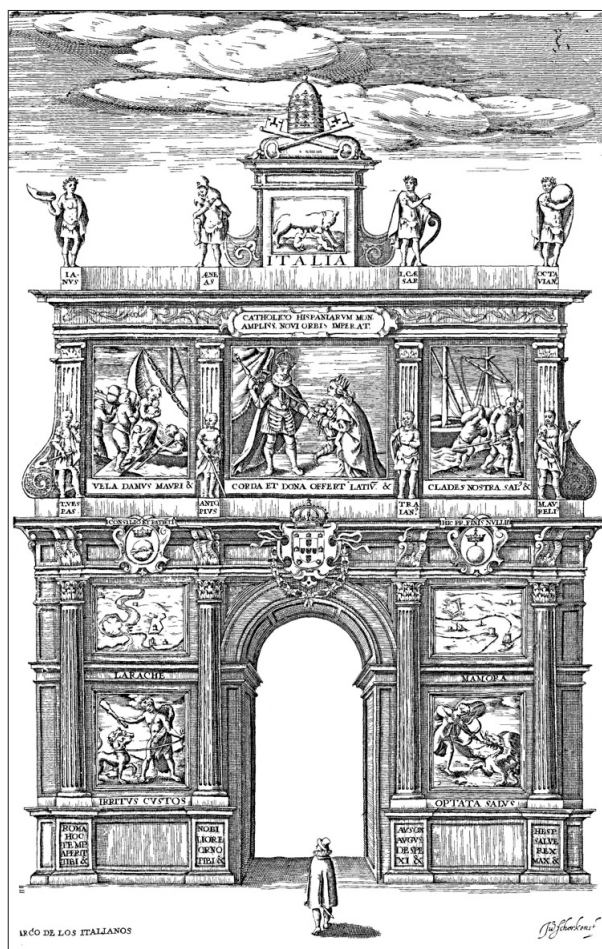


FIG. 2 JOÃO BAPTISTA LAVANHA, *Viagem da Catholica Real magestade del Rey D. Filipe III N. S. ao Reyno de Portugal*, 1622. Madrid, Thomas Iunti. Italians' arch of triumph.



FIG. 3 JUAN PANTOJA DE LA CRUZ, *König Philipp III (1578-1621) von Spanien, Bildnis in ganzer Figur als General der Infanterie (Im Hintergrund: Die Belagerung von Ostende 1601-1604)*, ca. 1601/1602. Kunsthistorisches Museum Wien, Gemäldegalerie. Fotografie und Digital Image © KHM-Museumsverband.

secret archives to a publicly visible arch and after 1622 to the printed page. The other major conquest, the taking of Ostend in 1604, «site that proved to the world that no force, even aided by provisions and defenders, sufficed against Spanish valour and persistence»¹³, appears in the background of Juan Pantoja de la Cruz's splendid portrait of King Philip III. In other words, the king's image at two key moments of his reign was associated with the power reified as conquest and the fortress construction¹⁴ [FIG. 3].

Texts on military architecture were dedicated to the future Philip III while he was still crown prince, expected as he was to follow ably in the footsteps of a father with expertise in that and in political architecture, because massive public works and fortifications were indispensable to exercise and represent power¹⁵. Spaniards such as Cristóbal de Rojas or famous army officer Bernardino de Mendoza dedicated their treatises to the prince, while in light of the ap-

peal of a monarchy always in need of good engineers, Italian authors were also prone to dedicating their works to the future king. He was dedicatee, for instance, in the first edition of a treatise (sent only to Christian princes) by Lorini, an engineer who had participated in the Palmanova project in Venice. Dated 28 October 1596, the dedication referred to the author's own experience in Flanders and praised the power of a king who ruled over most of Europe, Armenia, the East Indies and the New World¹⁶.

The continuity of Philip II's reign was also visible in other areas of engineering, such as ambitions around the navigability of Spanish rivers, although such projects were not on the same scale or as celebrated (in the verse of humanist Ambrosio de Morales, for instance) as the navigation on the Tagus consummated by Juan Bautista Antonelli. The relocation of the court to Valladolid focused particular attention on regional navigability. In 1604 Lavanha drafted drawings that would enable the king to navigate on the Rivers Esgueva, Pisuerga and Duoro¹⁷. Jerónimo de Soto also engaged in navigation the Pisuerga in 1607, Leonardo Turriano authored a project for navigation on the River Guadelete¹⁸ and farther afield Pietro Antonio Barca, who in 1607 declared himself fortunate to be a subject of the King of Spain, engaged in channelling waterways in the Duchy of Milan¹⁹.

1606: A DEATH, A DEARTH OF ENGINEERS AND GREAT EXPECTATIONS

The year 1606 defined a before and after for courtier engineers because until that date Spannocchi had played the lead role in all decisions involving fortification, even before his appointment as engineer major of the kingdoms of Spain in 1601. He oversaw all the reign's fortresses, from the Americas to Italy, and of course in all the Spanish kingdoms. In 1605 he advised the powerful Secretary of State Pedro Franqueza, Count of Villalonga, about the best experienced fortification engineer to send to Naples. His advice²⁰ provides invaluable information on the engineers at the crown's service at the time and attests to their frequent association with the powerful monarch for whom they worked. The circulation of engineers across the empire contributed to the globalisation of their technology and science. To be able to provide a suitable answer, Spannocchi asked to have ground plans, elevation drawings and scale models sent from Naples. The engineers he knew were:

«in the kingdom of Naples there are a few trainees none of whom, I am informed, has any experience in designing or describing sites. I have seen drawings by one, Mario Cartaro, some of which are very diligent and could be use to find more or less apt solutions, but he would be unsuitable for construction. In Milan an engineer called Busca has authored treatises on the subject. Another, known as Paulo Ferrer [Ferrari], I imagine will be kept quite busy by the Count of Fuentes. There are also a few in the kingdom of Sicily, but I suspect they have scant experience. In this court Yr Mjsty has Bautista Antonely, who has served Y. Maj. for over thirty years' in the Indies, he is intelligent and based on what the Count of Villalonga tells me would be his task, he is one of those who could perform it most satisfactorily».

That text infers that trainees (such as Jerónimo de Soto had been at Spannocchi's side for many years) were not fully qualified, but nor was someone like Cartaro who, while able to make drawings and descriptions, would not be apt for construction. He imagined that the engineers in Milan would be busy carrying out the orders of the Count of Fuentes, whose vast fortification efforts in the State under his rule were so notorious that Spannocchi could only assume that none of the count's engineers would be available. Spannocchi was also aware of the treatises authored by one of those engineers, Gabrio Busca, who died that very year, 1605. The engineers in Sicily, in turn, had scant experience, inasmuch as the main war scenario had shifted to the Low Countries. His recommendation to send Bautista Antonelli to Naples was an indication of the enormous respect felt for Philip II's great engineers in both his son's and his grandson's reigns.

Bautista Antonelli, who returned from the Indies in 1601, was called to the court to engage in matters concerning his profession²¹. During Philip IV's reign when the Fortifications Council was created, Leonardo Turriano was chosen as «a person with practice in fortifications who could be entrusted with drawings and other papers». He was brought to the court from Lisbon «to work on fortifications in the kingdoms of Italy and the Indies». Given his age, however, he was unable to travel and as it would have been impossible for the court to pay him the salary he received from Castile and Portugal, the whole

affair ended prematurely. After six months at court, Turriano returned to Lisbon²² where he had lived since 1597 when Philip II appointed him engineer major of the kingdom of Portugal.

Tiburzio Spannocchi died a year after recommending Antonelli for Naples. Even before his death, however, concern was in the air over who might replace him in the court and on the frontier. The aforementioned Count of Fuentes received letters asking him to recommend successors. On 5 July 1606 the count described what he deemed to be extravagance in «maestro» Enrique, who was in Brussels and knew no other than his mother tongue and Latin but was knowledgeable about political architecture. The Count of «Sanfron [Ercole Negro di Sanfront], an expert in architecture and with more experience in the matter», was in the employ of the Duke of Saboya. An engineer named Tholomeo [Tolomeo Rinaldi], who served the chamber in Milan, was not bad and «outside that two others serve the State, one from Como and the other from Milan, neither over thirty. The Milanese has been in Hungary, has a good knowledge of forts and is helping build Novara, whilst the Comasque has a command of both military and political [architecture] and has begun [his career] with the construction of the new fort». The State Council favoured one of the two young men, the Milanese or the Comasque²³, although the historical record suffices to identify neither. And whilst that choice is of interest, no less enlightening for studies of the architecture engaged in by sixteenth and seventh century engineers is the distinction drawn by the Count of Fuentes between political and military architecture as engineers' competencies.

As the foregoing shows, in light of the paucity of engineers qualified to replace Spannocchi, the traditional solution ultimately adopted was to appoint his disciple Jerónimo de Soto, who had very likely had occasion to establish good connections in the court when delivering Spannocchi's many drawings and models for fortifications. He must have relied on that powerful backing when the time came to opt for the position.

HOPEFULS SEEKING TO NAVIGATE COURTIER POWER NETWORKS

Some of the engineers who sought success in the power networks in place in the Spanish court proved their mettle in the three major conquests cited earlier, Ostend, Larache and La Mamora. Juan de Medici (who worked in the field but who also had strong support in and spent considerable time at the court) must have built on his participation at Ostend to eclipse Cristóbal de Rojas as head engineer at La Mamora where «a person of greater intelligence and better suited to the task is needed»²⁴. Such words would have infuriated Rojas, who had delivered lessons at Juan de Herrera's Mathematics Academy, built Águila Fort in Brittany and authored treatises of renown. He was nonetheless relegated to the fortifications at Cadiz, the defence of which was unquestionably of utmost interest to the crown, but which was at a substantial distance from the court.

Cristóbal Lechuga, whose treatises had earned him enormous prestige, was also present at Larache and La Mamora²⁵. He acquired a position of confidence in a distant but no less influential court for European military architecture alongside the aforementioned Count of Fuentes at Milan²⁶. Bautista Antonelli, who learned from his time with Ves-

pasiano Gonzaga to navigate the waters of courtier power, also participated in the African campaigns. In 1612, however, court engineer Jerónimo de Soto's review of Antonelli's designs for Larache had a fairly surprising outcome. Whilst Soto's preference for Antonelli's over Juan de Medici's proposal might be thought to have pleased the former, the contrary transpired. Bautista explained that he had designed not a «substantial», but merely a provisional fortification, lacking in both casemates and orillons on the bastions, with a land front nearly and «very reprehensibly» straight, thereby wholly discrediting and expressing his astonishment at Jerónimo de Soto's approval of that layout²⁷. That episode is indicative of a change in times, for whilst Jerónimo de Soto was triumphant in court, having replaced none other than Tiburzio Spannocchi as the «making» of the royal favourite, he was not an especially skilful engineer. Judging from Antonelli's indignation, Soto lacked not only science, but also the fortification experience he himself had acquired, like Spannocchi, or even Leonardo Turriano, cited above as one of the last of Philip II's great engineers called to court during his grandson's reign.

Another of the failings of these court engineers was that, while fully aware such professionals need a knowledge of the terrain, they did not always visit the places to be fortified. That was the case of Spannocchi's American fortifications. In a similar instance, prior to Soto's aforementioned report, Juan de Medici had also seen Antonelli's ground plan and design for Larache and critiqued it before having seen the site. He acknowledged that it was rash for practical soldiers «to base such an important discourse on drawings», but he felt authorised by his experience with recent fortifications in Flanders that benefited from shovel, spade or galleries and even boasted that at Ostend he had invented a new type of fortification²⁸. Resorting to that experience in other places would not exempt Medici from the obligation to visit the site personally, but he would appear to be vindicated by his subsequent long career as a field engineer. Interestingly, when Medici was at court, he taught King Philip III himself military architecture, according to a record left by Pietro Paolo Floriani, one of Medici's proteges at the time²⁹.

As teaching was a profession at a considerable and safe distance from war, candidates to teach military architecture in court were never lacking. In 1605 Philip III had created a chair for mathematics and fortification under the aegis of the War Council, which ultimately focused more on mathematics and artillery³⁰. In 1606, the year the court returned from Valladolid and the year of Spannocchi's death, an «experienced person» was sought «who could deliver lessons on military architecture, in which many could engage to the benefit of Y. My's service»³¹. The dearth of well trained fortification engineers had begun to be distressing. The king replied that he wanted proposals specifying candidates, their salaries and where the lessons would be taught. The State Council's answer dated Madrid in January 1607 stated that «having considered it attentively» they proposed a salary of three hundred thousand maravedis per year and that the lessons should be delivered in whatever part of the palace the king chose «like ferrofino [Firrufino] did»³².

The Count of Chinchón proposed Doctor Cedillo for these lessons because «he said he engaged in the fortification at Cadiz and gave glowing reports of that enterprise, and of Juan Bapta. Lavaña, cosmographer with the Portuguese court, Juan Angelo and Pedro Salvi, all experts in the matter». Of those named, Pietro Sardi (believed to be the third cited) had requested a position as engineer in Spain in 1604. As his alleged engineering

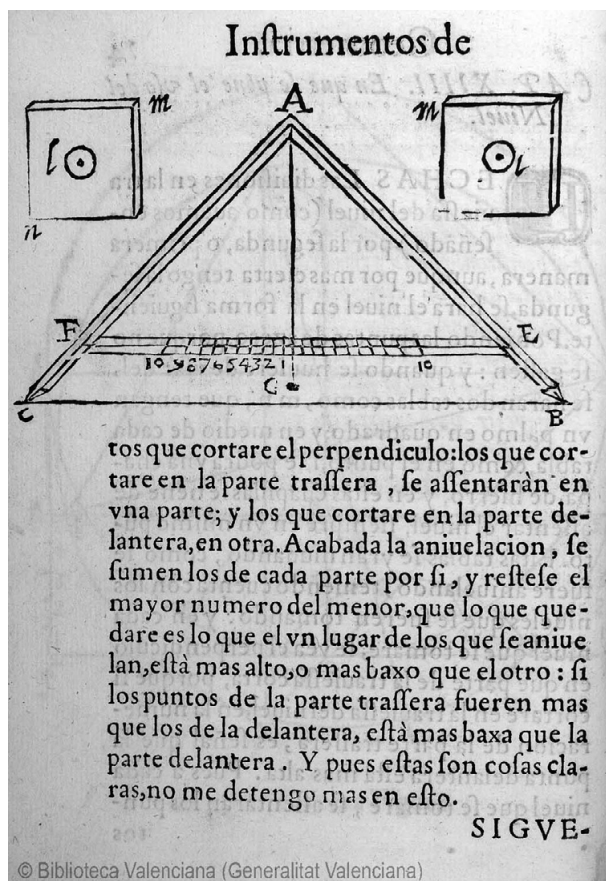


FIG. 4 ANDRÉS GARCÍA DE CÉSPEDES, *Libro de instrumentos nuevos de geometría muy necesarios para medir distancias, y alturas...*, 1606. Madrid, Juan de la Cuesta. Nivel.

up to the task. Andrés García de Céspedes, cosmographer major of the Indies and from 1607 professor of mathematics at the Royal Academy of Mathematics, published a book in 1606 entitled *Libro de instrumentos nuevos de geometría muy necesarios para medir distancias... y otra una cuestión de artillería*. He was the «making» of Archduke Alberto, whose servant he claimed to be ever since he made two mathematical instruments for the then Governor of Portugal, to whom he dedicated his book [FIG. 4]. The case of Juan Cedillo Díaz, who had more fortification experience, illustrates the appeal of the court as the place to prosper. He had encountered difficulties in receiving his pay while engaged in the Cadiz fortifications as trainee alongside Cristóbal de Rojas and in 1604 the War Council used his case as a warning that the method for paying engineers' salaries needed to be revised to prevent them from leaving the profession:

«because as this profession is so necessary it is only fair to support and favour it by ordering punctual payment of the salaries of all those rendering that service, for failure to do so induced the abandonment of the profession by Juan Cedillo Díaz, clergyman and skilled mathematician and a person with practical understanding who promised to be most useful to it; and by Juan de Castillejo, who shared those same strengths; and both served as trainees in the construction at Cadiz with Captain Rojas, who was himself in such dire

experience across Europe was in fact limited to pipelines for fountains and given the mistrust inspired by his having served many masters, the Venetians included³³, he was ruled out immediately. In the end the choice was between Cedillo and Lavanha, although in addition to the former the Constable of Castile had proposed García de Céspedes, «who served the Archduke Alberto, with whom he maintained good relations»³⁴. In other words, all three had an influential protector.

As Cedillo, Lavanha and García de Céspedes were not fortification engineers, the acceptance of their aptitude to teach military architecture is a clear indication that the two-way street between engineering and the professions that spawned it (mathematics and cosmography in this case) never ceased to be trafficked.

The following brief sketches of those three men's careers may help understand why they were deemed to be

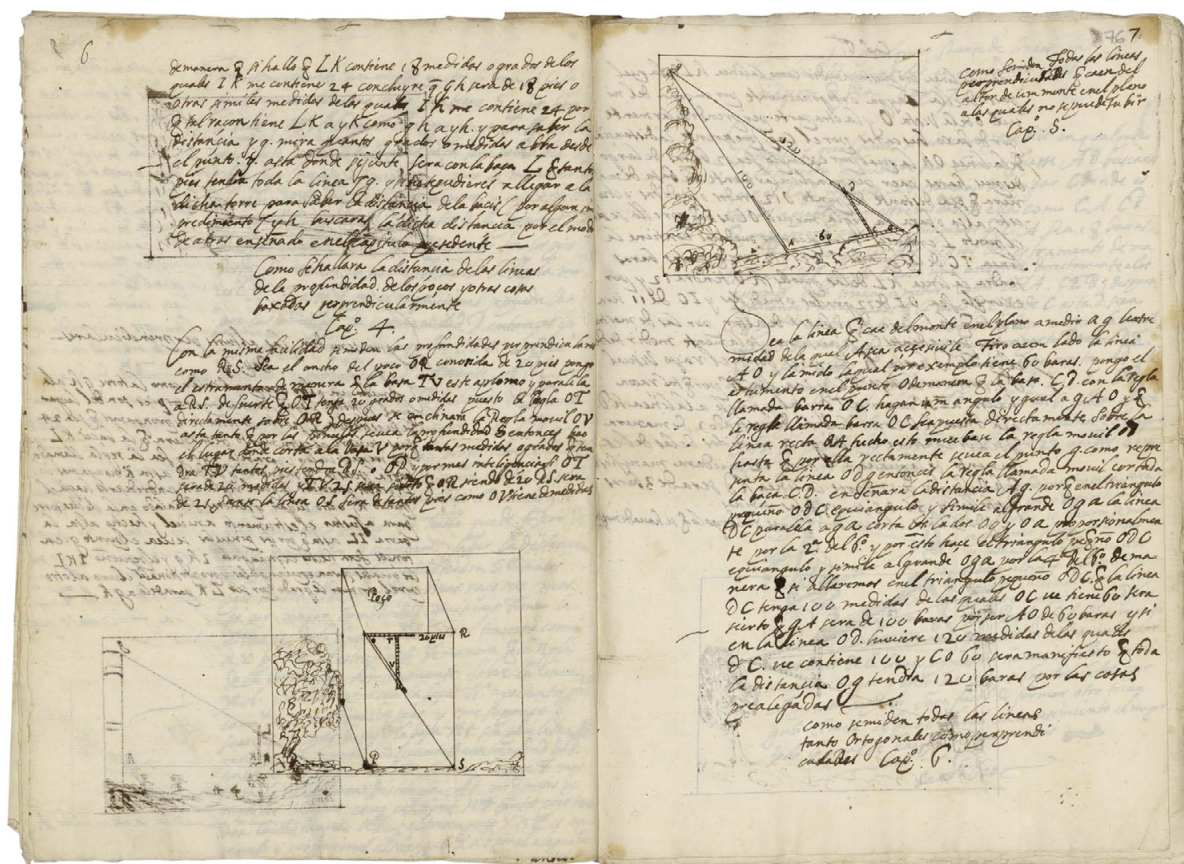


FIG. 5 JUAN CEDILLO DÍAZ, *Obras originales y traducciones*. Madrid, Biblioteca Nacional de España, Mss/9091.

straits for not having been paid his salary that he himself acknowledged having notified Knight Commander Tiburcio on one of his visits to Seville that he would either have to die of hunger or leave Y.My's service, all of which can be remedied by punctually paying the salaries of those who serve in this ministry»³⁵ [FIG. 5].

Since such good intentions went unfulfilled, and even Cristóbal de Rojas suffered intolerable deprivation, Juan Cedillo Díaz ultimately prevailed upon power networks to find a position in the court, very likely satisfied to have traded the ill treatment afforded fortification engineers for the safety of a mathematics chair and to return to his earlier profession. In 1611 he was court cosmographer major and professor of mathematics, succeeding Andrés García de Céspedes. That position earned him the fame that led to his inclusion in the pages published in 1615 by Cristóbal Suárez de Figueroa, who wrote that the Academy «today has Professor Doctor Juan Cedillo Díaz, highly versed in mathematics», confirming his excellence on the grounds of his genuinely high salary, eight hundred ducats³⁶.

Lavanha in turn, who had already participated in the Mathematics Academy founded by Philip II in the fifteen eighties, was regarded in 1597 as a mere theorist of engineering without Leonardo Turriano's experience, for which reason he did not merit trust as an engineer³⁷. Indeed, João Baptista Lavanha based his courtier success on his skills as mathematician, cosmographer, cartographer and scientific instrument expert. When he

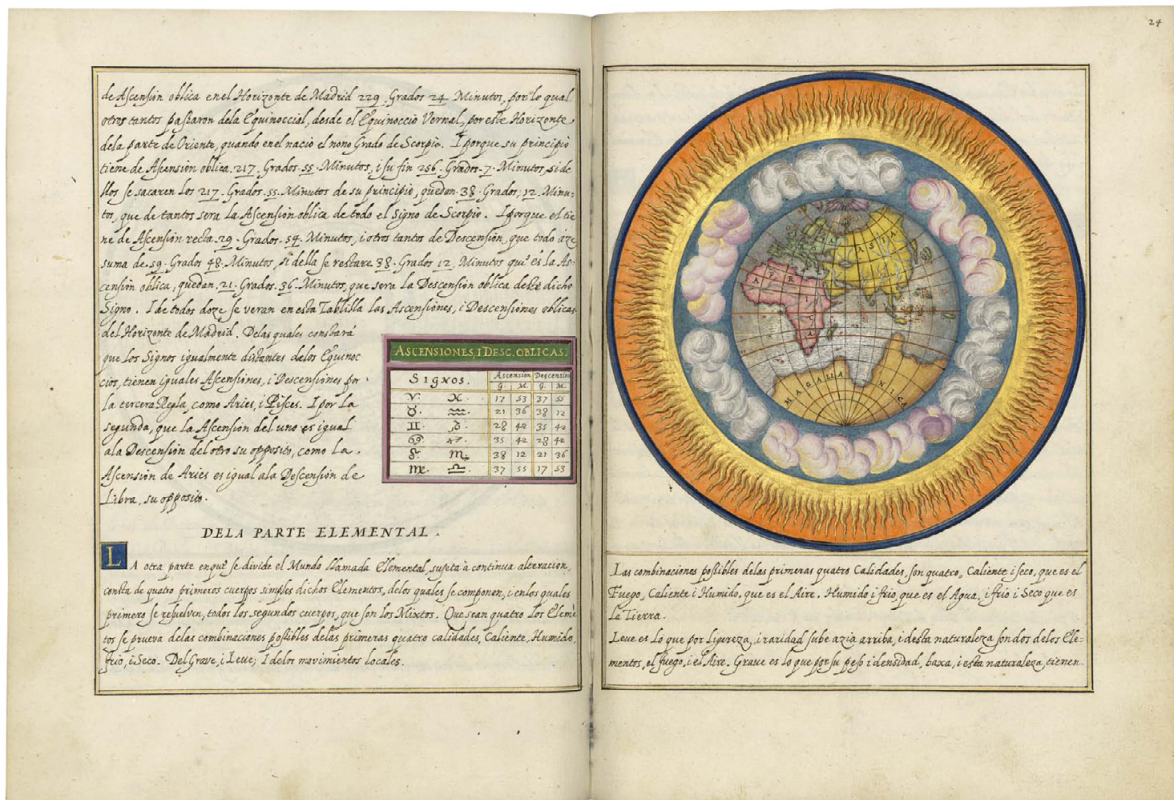


FIG. 6 JOÃO BAPTISTA LAVANHA, *Descripción del universo*, 1613. Madrid, Biblioteca Nacional de España, Mss/9251.

was appointed by Philip III as his son's mathematics tutor in 1613, Lavanha dedicated his *Descirpción del Universo*³⁸ to the young prince [FIG. 6]. A few years later, in 1618, his adverse report on a system for calculating longitude that Galileo had offered Philip III, along with a telescope for galleys, prompted the rejection of the Tuscan scientist's proposal³⁹. Coming back to 1613, his inexperience in military architecture led the Duke of Lerma to question his suitability for teaching architecture and wonder whether García de Céspedes would accept⁴⁰. In any event, that these three mathematicians and cosmographers, experts in geometric measuring instruments, indisputably an applied science, were not engineers, might well be interpreted to denote a dangerous partiality in favour of science to the detriment of experience in engineers' training.

Lerma was not Philip III's only courtier with an interest in science. Don Rodrigo Calderón, the shadow of a favourite as he was called in a recent book⁴¹, must have been pleased over the dedication (shared with Archduke Alberto and Isabel Clara Eugenia) in Michel Coignet's manuscript *Usus trium praecipuorum mathematicorum instrumentorum...*⁴². Translated into Spanish in 1612, it showed that fortifications were one of the primary testing grounds for the use of such instruments [FIG. 7]. In 1613 Rodrigo Calderón himself commissioned Pietro Paolo Floriani to make drawings of the machines for the king's use, which the latter did with the assistance of a an old Flanders veteran, authoring what apparently was a handsome book of illustrations of all the machines made in Flanders⁴³.

Years later Pedro Mantuano, a historian very close to both the Duke of Lerma and the Constable of Castile⁴⁴, wrote an account of the sumptuous voyage in 1615 through Behobia pass for the exchange in matrimony of Spain's and France's respective princesses

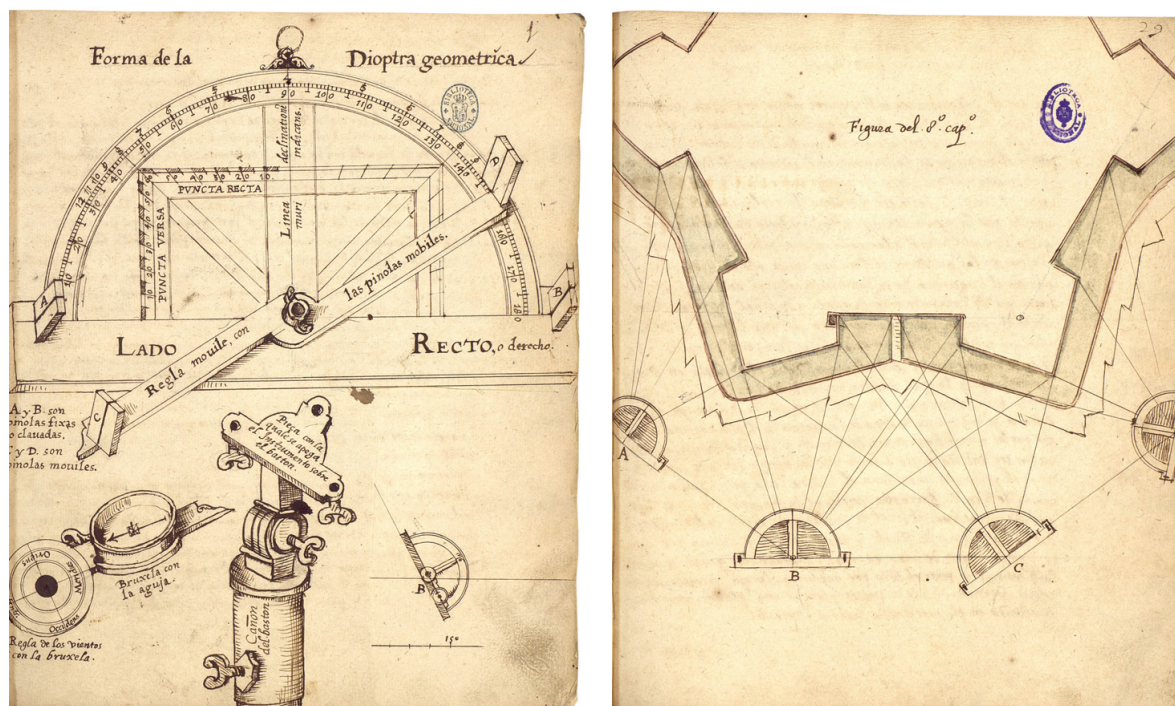


FIG. 7 MICHEL COIGNET, *Usus trium praecipuorum mathematicorum instrumentorum*, 1612. Geometric dioptra and measurement of a fortress. Biblioteca Nacional de España, Mss/9213.

at the River Bidasoa, which he dedicated to Francisco Calderón, don Rodrigo's son. Francisco, just twelve years old at the time, already knew «Latin, the sphere [and] cosmography»⁴⁵, knowledge expected of a prince⁴⁶. During that voyage, one of the silver platters used in Burgos by the Duke of Lerma for important events to fête ambassadors, the nuncio and Spain's upper nobility depicted «the globe, with its parallels and meridians, tropics and equinox and their exact measurements»⁴⁷. Although just one of many (for others were adorned with scenes from the conquest of Mexico or Habsburg family history or, all manner of vermin, fruit, branches, ivy leaves or clusters of grapes), it showed that history and a scientific description of the world formed part of the discourse of power. Sixteenth and seventeenth century engineers' work, which involved so much measurement and description, must be viewed against that backdrop.

The Duke of Lerma's and his son the Duke of Uceda's interest in fortifications was also mirrored in Mantuano's text, written to extoll the lineage's magnificence and its extraordinary service to the crown. In it he provided a thorough description of the fortification at Fuenterrabía, with details on measurements and fortification systems that must have been furnished by an engineer⁴⁸. That printed description of the fortification was deemed a betrayal of the secrecy in which such information was to be retained, for it facilitated conquest by the enemy⁴⁹. Who could have given Mantuano the technical information for such a description? It may have been Juan de Medici, entrusted with the halls, chambers and mechanisms on the boats to be used for the exchange of the princesses on the Bidasoa. But the source might also have been Jerónimo de Soto, if he indeed was the «Milanese [engineer] Geronymo Sesto», who formed part of Medici's entourage for the occasion (a fact unproven, for even today his place of birth is unknown), since while

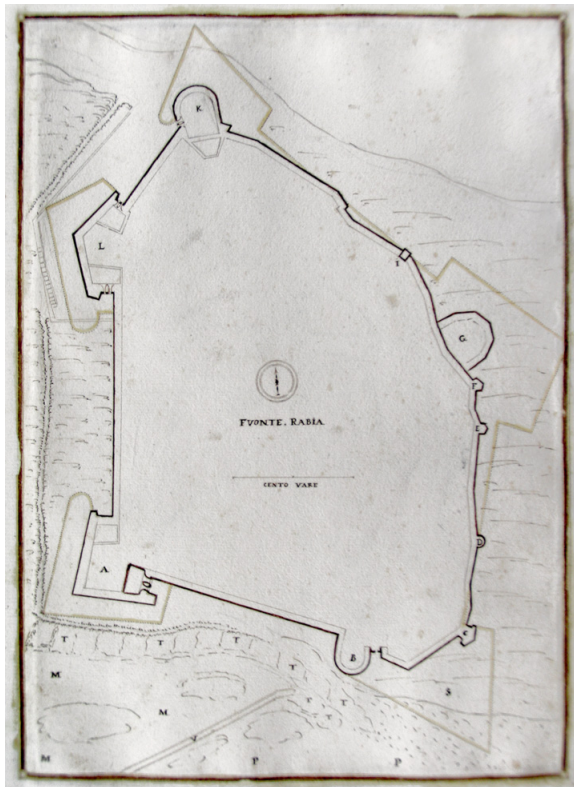


FIG. 8 Ground plan of Fuenterrabía with reforms proposed, probably by Spannocchi. Rome, Istituto Storico e di Cultura dell'Arma del Genio, ca. 1600.

at Spannocchi's side he spent a good deal of time at Fuenterrabía. No-one was likely to know as much about the fort as Soto [FIG. 8].

That triumphant voyage to exchange princesses also illustrates engineers' professional versatility. Juan de Medici, who in 1615 was in Seville as the king's engineer and associated with the Duke of Medina Sidonia⁵⁰, was sent by Philip III to oversee the exchange as «knight of the Order of Santiago, former captain of defences in Flanders and today field master of the Italians». The French sent «Monsieur de Gurguis, President of Bordeaux Parliament, with an order to proceed equally in all things. The engineers were, for don Juan, Milanese [engineer] Geronymo Sesto and for the president, Franquino»⁵¹. M. Gourgue and engineer Francini, for the French, and Ambassador Íñigo de Cárdenas and Juan de Medici for the Spanish, arranged all the

details about the boats, their manoeuvres and the spaces for a ceremony which, as Del Río's study shows, was organised in minute detail, with engineers as the essential actors⁵².

ARCHITECTS AND NOBILITY: COURTIER ENGINEERS JERÓNIMO DE SOTO AND ALONSO TURRILLO

In Philip III's reign the nobility was particularly prone to entrust engineers with the designs for their palaces and gardens, for such authorship seemed to add to the prestige of those emblems of power. The Duke of Lerma epitomised that new practice when in 1601 he brought Spannocchi with him to design a palace (which was never built) at the court's new seat in Valladolid. According to Cabrera de Córdoba, «that the Duke of Lerma wants to build a big house in Valladolid and has hired engineer Espanoqui to design it»⁵³ sufficed to stoke rumours about the court's relocation. Lerma was not alone. The Marquis of Villafranca called Camillo Camiliani from Sicily to remodel the castle at Villafranca del Bierzo and design the gardens⁵⁴. Spannocchi and Jerónimo de Soto in turn designed homes and gardens for don Juan de Idiáquez⁵⁵, while the Constable of Castile, Juan Fernández de Velasco, Duke of Frías and President of the Royal Council for Italy, commissioned the design of his new recreational home at Ventosilla from them as well⁵⁶. When the constable left Valladolid for Flanders in 1603 he «took Espanoque and other engineers with him to examine the forts at Fuenterrabía and San Sebastián and others on

that coast and advise of any necessary repairs so he could issue orders accordingly»⁵⁷, a fact indicative of his close relationships with these professionals. Many a historian would have liked to be a fly on the wall during that voyage...

After Tiburzio Spannocchi's death, Jerónimo de Soto⁵⁸, who had begun a career as courtier engineer at his side with commissions such as those cited, appears to have been the Duke of Lerma's favourite engineer. As early as 1604 the duke had arranged for both to be paid not by the artillery but by the Treasury to secure their ongoing presence at his side by ensuring there would be no arrears in payment⁵⁹. After the death of his maestro, Soto's rising star in the court must have cast other engineers in shadow. So effective was his protection that in 1614 he was summoned by the Captain General of artillery to explain his unknown whereabouts, a situation unthinkable for an engineer during Philip II's reign. Alonso Turrillo, another engineer not stationed at any specific place and who also claimed to be a resident of the court, engaged in works for the Duke of Uceda, whose palace in Madrid he appears to have designed. Both had salaries of fifty escudos per month, the same as paid to Leonardo Turriano in Lisbon⁶⁰ and that same year Turrillo had applied for promotion to captain⁶¹. Facts such as those infer that the engineers who used courtier power networks to their advantage most skilfully were Lerma's favourite after Spannocchi's death, Jerónimo de Soto, and Alonso Turrillo, who was in the Duke of Uceda's service but also protected by Lerma.

Alonso Turrillo trained under Cristóbal de Rojas. By 1597 he had been «practising as an engineer [for four years] and for a year now with Captain Christóval de Rojas my engineer and lately with him on the Andalusian coast and the Strait of Gibraltar and he helped him with all those drawings and measurements»⁶². As such a background was hardly enough to warrant the renown he earned in the court, his rise was not to the liking of the real experts in military engineering. Some light is shed on that anomaly by a War Council report issued in 1609 according to which Turrillo should not be paid more than more practical and sufficient (i.e., experienced) engineers, because he was no more than an «assistant engineer», despite the content of a letter signed by the Duke of Lerma referring to Turrillo as engineer and ordering his salary be raised to 18 escudos. The outcome of the resulting dispute between the State and War Councils would have astonished anyone living during Philip II's reign, because it attested to the extent to which being «the making of» consolidated these courtier engineers' careers and ambitions. It was ultimately settled by acknowledging Turrillo the salary awarded by Lerma on the grounds that as the War Council always abided by State Council's orders, the case at hand was to be no exception⁶³. That preference accorded an engineer could prompt a dispute between councils is surprising. The justification attempted by State Council Secretary Andrés de Prada was that Turrillo was to be sent to Portugal to build Cabeza Seca, despite his scant reputation as a fortification engineer⁶⁴. Nonetheless, in Philip IV's reign he travelled to America, and more specifically to Cartagena de Indias, as an engineer, and also designed the Mint at Santa Fé de Bogotá. The salary of fifty escudos awarded Turrillo in 1614 is an indication of a degree of success in Philip III's court that appears to be unjustified by his engineering prowess.

Giulio Cesare Fontana might have been another engineer with courtier aspirations, although no study has yet been forthcoming about his time in the court. In 1604 he travelled to Spain from Naples to stay the flooding of the River Guadalquivir in Seville (where

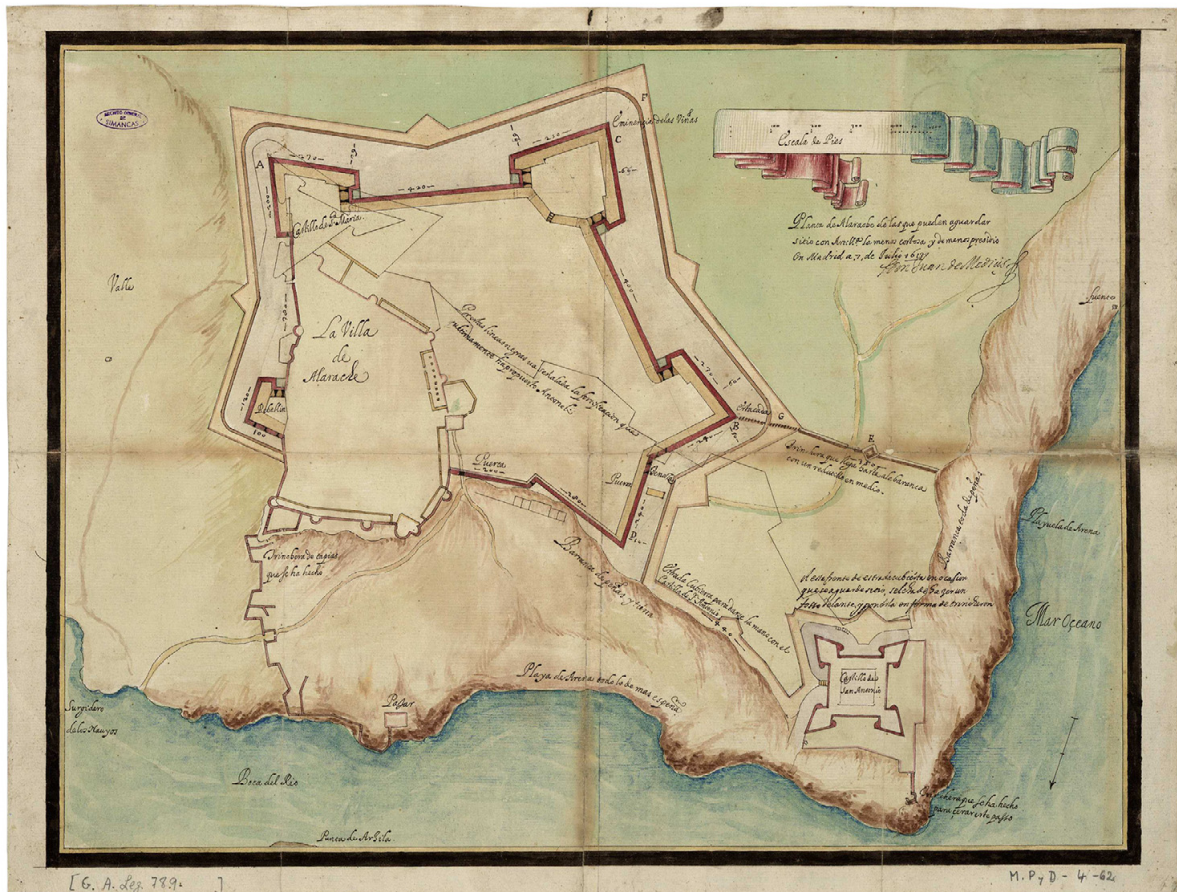


FIG. 9 JUAN DE MÉDICIS, Design for a fortress at Larache, 1613. España, Ministerio de Cultura y Deporte, Archivo General de Simancas, MPD, 04, 062.

he worked with Tiburzio Spannocchi, author of a lengthy and subsequently published report on the remedies for such floods⁶⁵). When he returned to Spain in 1616 with the Count of Lemos, he did so with all the fame of an engineer who had triumphed in Naples. Philip III entrusted him with works at Gibraltar, Cadiz and the dock at Málaga⁶⁶. In 1622, Philip IV awarded him the title of count in Italy in acknowledgement of his services, which included «the works for the festivities at Aranjuez» and the docks and fortifications at Gibraltar and Cádiz⁶⁷.

A divide often existed between the construction of magnificent emblems of courtier power and the actual situation on the kingdom's frontiers, which were always short of investment. At Gibraltar, for instance, where the dock was worked on by engineers of such renown as Bautista Antonelli, don Juan de Medici or Sir Giulio Cesare Fontana, by 1620 the old dock was crumbling and the harbour on the verge of obstruction. The depiction of the fortresses that celebrated the triumphant entry into Lisbon one year earlier stands as proof that work had not yet been initiated on the massive fortification for Larache designed by Juan de Medici⁶⁸ [FIG. 9] and that some of the timber and fascine walls on the pentagonal fort at La Mamora, designed in 1614⁶⁹ and shown as completely finished on the Italians' arch of triumph in Lisbon, had all but collapsed⁷⁰. And whilst the lack of resources took its toll on costly fortifications, some of the reign's most powerful courtiers were building palaces and gardens designed by military engineers.

NOTES

1. The original reads: «después de esto se entendió en hazer las trincheas y pasar más adelante aunque por encomendarse la cosa a un ytaliano el qual se llamava Juan Maria hombre de poco seso y menos experiencia se dilató más días de los que se dilatara y así fue encomendado esto a otros que después vinieron, hombres más sabios en aquel oficio los quales agora se llaman yngenieros», *Relación de la conquista de Túnez por el duque de Nájera* (1535). Real Biblioteca del monasterio de El Escorial, V-II-4, No. 21.
2. The original reads: «esta facultad de ingeniería de ordinario ha tenido falta de personas áviles, porque como está fundada mas en la experiencia que no en estudio de libros, y esta no se alcança si no es con aventuramiento de sus vidas los mas suelen acabar en la demanda, y por esta causa no es de maravillar que acá pocos la professen», Archivo General de Simancas (AGS), *Estado*, leg. 202, numbered folio (last folio in the file). Tiburcio Spanoqui, Valladolid, 8 July 1605.
3. CÁMARA MUÑOZ, 2016a.
4. For one of the several excellent studies on that reign see FEROS, 2002.
5. CÁMARA MUÑOZ, 2005 and 2016a.
6. KAGAN, 2002, p. 67.
7. CÁMARA MUÑOZ, 2016b.
8. The original reads: «una discription de todos los puertos y fuerças de las Indias muy particularmente», AGS, *Guerra y Marina*, leg. 580, f. 330, Madrid, 28 April 1601.
9. The original reads: «a la tarde se combatió un castillo que havían hecho aposta en la marina a la traça del de Amberes con su foso, y dentro había cosa de 200 hombres vestidos de moros. Fue atacado por diez mil ochocientos infantes con trincheras, baterías... y el rey lo vio todo desde el castillo», *Jornada de Su Magestad y Alt^a desde Madrid a Valencia a casarse El Rey con la Reyna Margarita y su Alteza con el Archiduque Alberto*. BNE Mss/2346, f. 172v.
10. CÁMARA MUÑOZ, 2018b. On the possible participation of engineer Jerónimo de Soto in the festivities, see VÁZQUEZ MANASSERO, 2018b.
11. LAVANHA, 1622.
12. See, for instance, AGS, *Mapas, Planos y Dibujos* (MPD), 05-131, 44-040.
13. The original reads: «plaça que mostrò al mundo no aver fuerça bastante, aun siendo socorrida de bastimentos, y gente, al valor y la constancia española», MANTUANO, 1618, p. 143.
14. Ostend was also depicted as a background for a portrait of Archduke Alberto, the conqueror of one of the best fortified cities of its time after years of siege, although the victory was attributed to Ambrogio Spínola who, as Thomas noted, artfully built an image for himself as victor in that and other battles. THOMAS, 2006, pp. 213-246.
15. On the difference between political and military architecture, see CÁMARA MUÑOZ, 2018b.
16. LORINI, 1596.
17. KAGAN, 2002, p. 53.
18. CÁMARA MUÑOZ, 2010.
19. CÁMARA MUÑOZ, 2005, p. 23.
20. The original reads: «en el Reino de Napoles ay algunos entretenidos para esta profession de los quales por lo que soy informado no ay ninguno exercitado todavía para lo que es tomar plantas y descriçion de sitios, ay uno que le llaman Mario Cartaro de mano del qual he visto yo obras muy diligentes, con las descriçiones de sus manos deste se podría resolver algo con acertamiento aunque para la execuçión entiendo no valdría. En el estado de Milán ay un ingeniero que se dize Busca que ha estampado tratados desta facultad. Otro ay que se dize Paulo Ferrer [Ferrari] los quales ymagino que el conde de Fuentes los tendrá muy ocupados. En el Reino de Sicilia también ay algunos, pero sospecho que de poca experiencia. En esta corte tiene Vra. Magd. a Bautista Antonely el qual ha servido a V. Magd., passa de treinta años y los mas dellos en las Yndias, es persona inteligente, y para lo que el Conde de Villalonga me ha significado deverse ocupar, es de los que mas pueden dar satisfacion», AGS, *Estado*, leg. 202, unnumbered folio (last folio in the file). Tiburcio Spanoqui, Valladolid, 8 July 1605.
21. AGS, *Guerra y Marina*, leg. 580, f. 330, Madrid, 28 April 1601.
22. The texts cited read in the original: «una persona plastica en materia de fortificaciones a quien se pudiese remitir las plantas y demás papeles» and «para tratar de las fortificaciones destos reynos de Italia y de Las Indias»: AGS, *Guerra y Marina*, leg. 954, unnumbered fol, 30 November 1627.
23. The texts cited read in the original: «Sanfron [Ercole Negro di Sanfront] hombre eminente en lo que toca a Arquitectura y que tiene mas experiencia en esta materia» and «y fuera sirven en el estado otros dos, un comasco y un Milanés que no pasan de treinta años y el Milanés ha estado en Ungria y tiene buena noticia de fuerças y assiste a la fabrica de Novara, el comasco sabe bien tanto de la militar como de la política y ha dado principio en la fabrica del fuerte nuevo», AGS, *Estado*, leg. 208 unnumbered folio, El Consejo de Estado sobre una carta del conde de Fuentes. 30 August 1606.
24. The original reads: «es menester persona de más porte e inteligencia de aquella facultad», cited in CÁMARA MUÑOZ, 2014, pp. 148-149.
25. BUENO SOTO, 2010.
26. GIANNINI, 2000.
27. BUENO SOTO, 2010, pp. 64-67. The outcome was a new design drawn in the field by both Bautista Antonelli and Juan de Medici for a fortress that was never built.
28. Instituto de Historia y Cultura Militar (IHCM), *Colección Aparici*, vol. XXXI, p. 36. Carta desde Madrid de 4 de febrero de 1611. THOMAS, 2006, p. 219 refers to one «General Giovanni de Medici» in the siege of Ostend.
29. ADAMI, 2006, p. 43. Adami studied Floriani's correspondence during his years in the court, in which Juan de Medici appeared as protector of Pietro Paolo Floriani, whom he even assisted when he was ill. According to Cobos and Castro, however,

- this is not the Juan de Medici, identified by Adami and most historians of his day, as the illegitimate son of Cosimo de' Medici. On the Juan de Medici who earned renown in the service of the Spanish crown, see COBOS GUERRA and DE CASTRO FERNÁNDEZ, 2005.
30. ESTEBAN PIÑEIRO and JALÓN, 1997. More detailed information can be found in ESTEBAN PIÑEIRO, 2004.
 31. The original reads: «*persona plastica, que leyese alguna lición de Architettura militar, pues con esso se ocuparían muchos, que adelante podrán ser de provecho para el servicio de Vmd.*», AGS, Estado, leg. 208 unnumbered folio, 30 August 1606.
 32. The texts cited read in the original «*aviendolo considerado con attencion*» and «*como lo hazia ferrofino*», idem. On Firrufino, see CÁMARA MUÑOZ, 1993.
 33. The text cited reads in the original: «*que dixo averse ocupado en la fortificación de Cadiz, y dado muy buena quenta de aquello, a Juan Bapta. Lavaña Portugues Cosmógrafo de la Corona de Portugal, a Juan Angelo, y a Pedro Salvi personas doctas en esta facultad*», AGS, Estado, leg. 208 unnumbered folio, 30 de agosto de 1606. On Sardi see IHCM, Colección Aparici, vol. XXXIV. Memorial de Pietro Sardi pidiendo colocación en España en 1604.
 34. The original reads: «*que sirvió al Señor Archiduque Alberto, de quien tiene buena relación*», AGS, Estado, leg. 208 s. fol., 30 de agosto de 1606.
 35. The original reads: «*porque esta profesión que es tan nesçesaria, es justo ampararla y favorecerla mandando que a todos los que sirven en ella se les pague su sueldo con puntualidad, pues por no haverse hecho así ha dexado el servicio de V.Md. Juan Cedillo Díaz clérigo gran mathematico y persona tan plastica en esta profesión que prometía ser de mucho fructo en ella y Juan de Castillejo, en quien concurrían las mismas buenas partes y los dos servían con entretenimientos en la fábrica de Cádiz cerca del Capitán Rojas, el qual se halla tan nescesitado por no pagársele su sueldo que trato con el Comendador Tiburçio según el mismo ha referido quando estuvo en Sevilla que le hera forçado por o morir de hambre dexar también el servicio de V.Md. todo lo qual se remedia con que aya puntualidad en la paga del sueldo de la gente que sirve en este ministerio*», AGS, Guerra y Marina, leg. 627, f. 46. 19 November 1604.
 36. The original reads: «*tiene hoy su Cátedra el Doctor Juan Cedillo Díaz, versadísimo en Matemáticas*», SUÁREZ DE FIGUEROA, 1615.
 37. MARTÍNEZ HERNÁNDEZ, 2003, pp. 74-75.
 38. BNE Mss/9251.
 39. FLORISTÁN IMÍZCOZ, 2003.
 40. AGS, Estado, leg. 208 unnumbered folio., 30 August 1606, in a hand that may be the Duke of Lerma's: «*avísese si se piensa que céspedes açetará, y si Juan bapta. Lavaña será bueno para esto*» [let me know if you think céspedes will accept and if Juan bapta. Lavaña would be apt for this].
 41. MARTÍNEZ HERNÁNDEZ, 2009.
 42. BNE, Mss/9213.
 43. ADAMI, 2006, p. 46.
 44. MONTCHER, 2012.
 45. The original reads: «*la lengua Latina, la Esfera, la Cosmografía*», MANTUANO, 1618, f. 1v.
 46. On science in the Habsburg court, see VÁZQUEZ MANASSERO, 2018a.
 47. The original reads: «*el mapa del Orbe, con sus Paralelos, y Meridianos, Trópicos, y Equinocial, con sus medidas ajustadas*», MANTUANO, 1618, p. 129.
 48. Idem, pp. 220-222.
 49. Idem, pp. 220-223. For a critique of this text in general and the description of Fuenterrabía in particular see *Discurso contrapuesto al de Pedro Mantuano, sobre la Jornada de Francia, dado a los Consejeros reales de Estado y Gobierno*. BNE, Mss/17955, ff. 28r-29v. This anonymous author writes that describing it «with [its] traverses, casemates, curtain walls, rebellions (sic! for 'ravellins'), bastions, ditches, moats, firing steps, counterscarps, daises, bulwarks and other parts of the fortification» was tantamount to furnishing information that would enable the enemy to take it (28v), whilst «Castillians' most earnest precaution» was to ensure the enemy could not see the inside of their forts.
 50. Archivo General Fundación Casa Medina Sidonia (AGFCMS), leg. 2918.
 51. The original reads: «*Cavallero de la Orden de Santiago, Capitán que fue de coraças en Flandes, y oy Maestre de Campo de italianos? and 'Monsiur de Gurguis, Presidente del Parlamento de Burdeos, con orden de proceder con igualdad en todas las cosas. Llevaron por ingenieros, don Juan a Geronymo Sesto Milanes, y el Presidente a Franquino*», MANTUANO, 1618, p. 228.
 52. About Juan de Medici, these engineers and the voyage, see DEL RÍO BARREDO, 2008.
 53. The original reads: «*no es poca ocasión ver que el duque de Lerma quiere levantar una grande casa en Valladolid, y ha llevado al ingeniero Espanoqui para que haga la planta y traza de ella*», Cabrera de Córdoba, *Relaciones de las cosas sucedidas en la corte desde el año 1599 a 1614* (1626). BNE, Mss/9129, p. 80.
 54. BOSCH BALLBONA, 2013-2014.
 55. SOBRADIEL, 2015.
 56. ALONSO, 2005, p. 183.
 57. The original reads: «*lleva consigo a Espanoque y a otros ingenieros para reconocer las plazas de Fuenterrabía y San Sebastián y las demás de aquella costa y avisar de los reparos de que tienen necesidad, para mandarse proveer*», Cabrera de Córdoba, *Relaciones...* p. 195.
 58. IHCM, Colección Aparici, vol. XXXIV, p. 149. He died in 1629 and his son asked to inherit all he had. It is interesting to see how he synthesised his father's services, always under Spannocchi's shadow until the death of the latter: Captain Jerónimo de Soto «*se halló con Tiburcio Espanoqui Ingeniero mayor su maestro, en los Reynos de Portugal, Galicia y Navarra, Tarifa, Gibraltar y Málaga a reconocer las fortificaciones...*» [found in Tiburcio Espanoqui, engineer major, his maestro, in the reigns of Portugal, Galicia and Navarre, Tarifa, Gibraltar and Málaga, to learn how to reconnoitre fortifications...] «*Y quando entró el ejército a Aragón fue con el dicho Tiburcio, habiendo venido a la corte diferentes vezes con trazas y modelos ha hacer relación*

a boca, y habiendo el año de 606 fallecido el dicho Tiburcio Espanoqui empezó a servir en su lugar, quedando en su poder los papeles, modelos y plantas» [And when he joined the army of Aragón it was with the said Tiburcio, having come to the court several times with designs and models and oral reports, and the said Tiburcio Espanoqui having died in 606 he began to serve in his place, keeping his papers, models and drawings]. His highest salary was 70 escudos per month.

59. AGS, *Guerra y Marina*, leg. 627, f. 211.
60. IHCM, *Colección Aparici*, vol. XXXIV, pp. 133 and 134. 3 November 1614.
61. AGFCMS, leg. 4391. Undated, but judging from the context it must have been on that date.
62. The original reads: «*exerçitandose en el ofiçio de ynginiero y que de un año a esta parte lo ha hecho con el Capitán Christóval de Rojas mi Ynginiero y últimamente fue con el a la costa del Andalucia y estrecho de Gibraltar y le ayudó a tomar todas las plantas y medidas que se ofrecieron*», AGS, *Registro del Consejo*. Libro 77, f. 164. 10 June 1597.
63. AGS, *Guerra y Marina*, leg. 712, unnumbered fol. 12 October 1609.
64. The text cited reads in the original: «*platicante e yngeniero*», IHCM, *Colección Aparici*, vol. XXXI, p. 80.
65. SPANNOCCHI, 1604. The manuscript on the floods with Spannocchi's drawings is custodied in the Municipal Archives of Seville, several authors, 452-2. See in that regard CÁMARA MUÑOZ, 2016a.
66. DE CAVI, 2009, p. 48.
67. IHCM, *Colección Aparici*, vol. XXXIV, p. 268. Madrid, 4 September 1622. On his participation in the festivities at Aranjuez, commissioned by Isabel of Borbón, 3 November 1622, p. 217. Isabel of Borbón entrusted him with the scenography for *La Gloria de Niquea*, performed in the gardens at Aranjuez in 1622, see DE CAVI, 2009, p. 49.
68. AGS, MPD, 04, 062.
69. AGS, MPD, 05, 131.
70. GARCÍA GARCÍA, 1996, pp. 144-145.

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In this book, the collection Juanelo Turriano Lectures on the History of Engineering is publishing part of the results of a project in which the Fundación Juanelo Turriano has been the concerned entity: the R&D+I project *El dibujante ingeniero al servicio de la monarquía hispánica. Siglos XVI-XVIII: ciudad e ingeniería en el Mediterráneo - DIMHCIM (AEI/FEDER/UE)* [Draughtsman engineers serving the Spanish monarchy in the sixteenth to eighteenth centuries: city and engineering in the Mediterranean - DIMHCIM (AEI/FEDER/UE)], - HAR2016-78098-P funded by the Spanish Ministry of Science, Innovation and Universities.

The book is organised around three main axes for reflection: Nobility and engineering, Creations of and Between power and knowledge, which present the chapters in which Spanish, French and Italian specialists study the relations that existed between the engineers and power in the sixteenth and seventeenth centuries.

The guiding theme is the expression «ser hechura de», which we find defined in *Tesoro de la lengua castellana o española* [Treasury of the Castilian or Spanish Language] by Sebastián de Covarrubias in 1611: *Hechura: para dar a entender que un señor ha valido a cualquier persona, y le ha puesto en estado y honor, decimos ser este tal hechura suya* [Creation/Making: to signify that a nobleman has sponsored somebody, and given him status and honour, we say that this person is his creation or of his making].

The possibility of collecting in one book case studies that involve a large part of Europe, allows a comparison of how the necessary loyalties were ensured, the engineer's dependency regarding the networks of power, the shared knowledge, or the role of the nobility, all of which represents a new approach to the history of engineering in the Early Modern Era.



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